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SOUVENIR

The Madras State
L. I. M. Association
27th Conference
SALEM.

October 1966.

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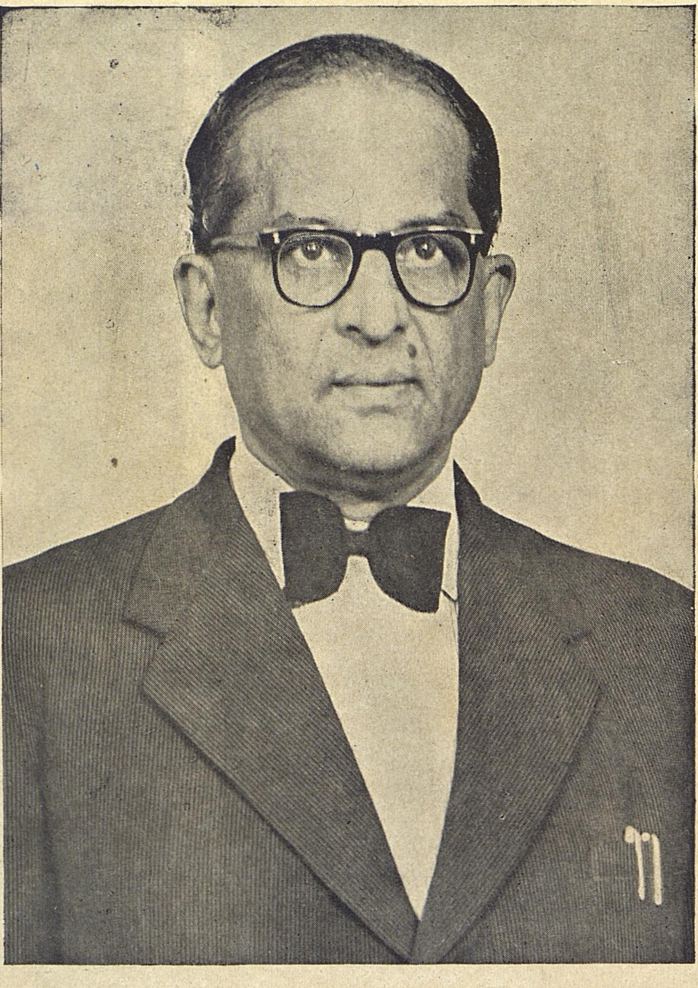

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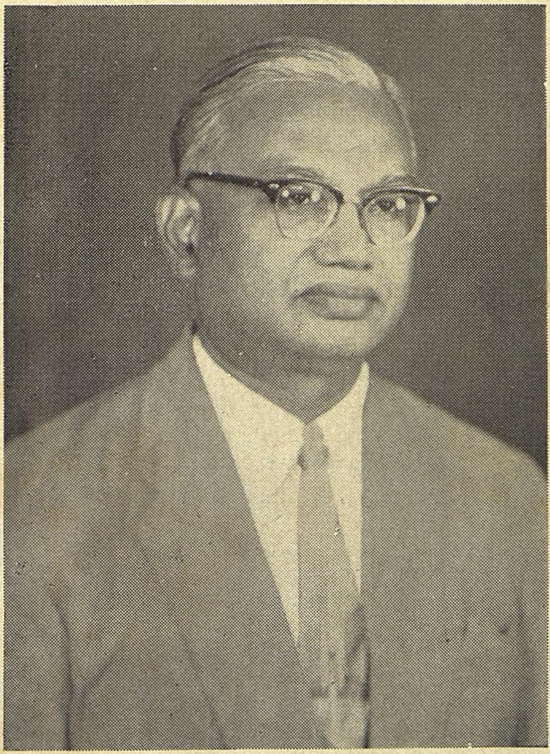

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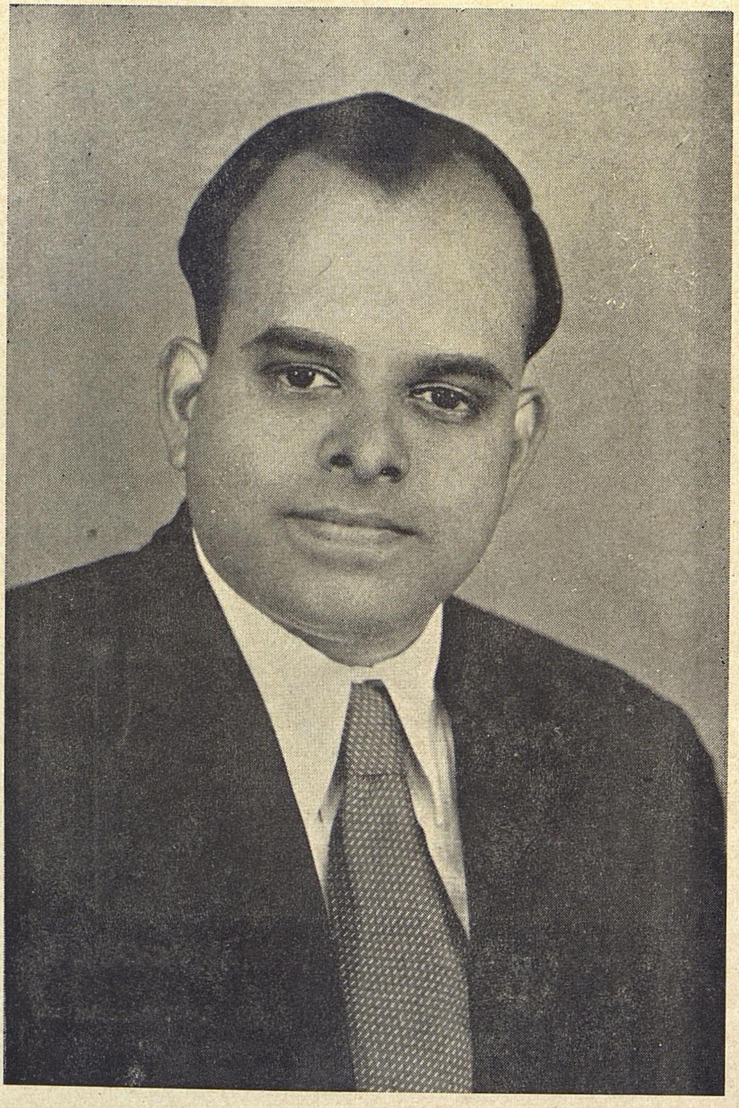

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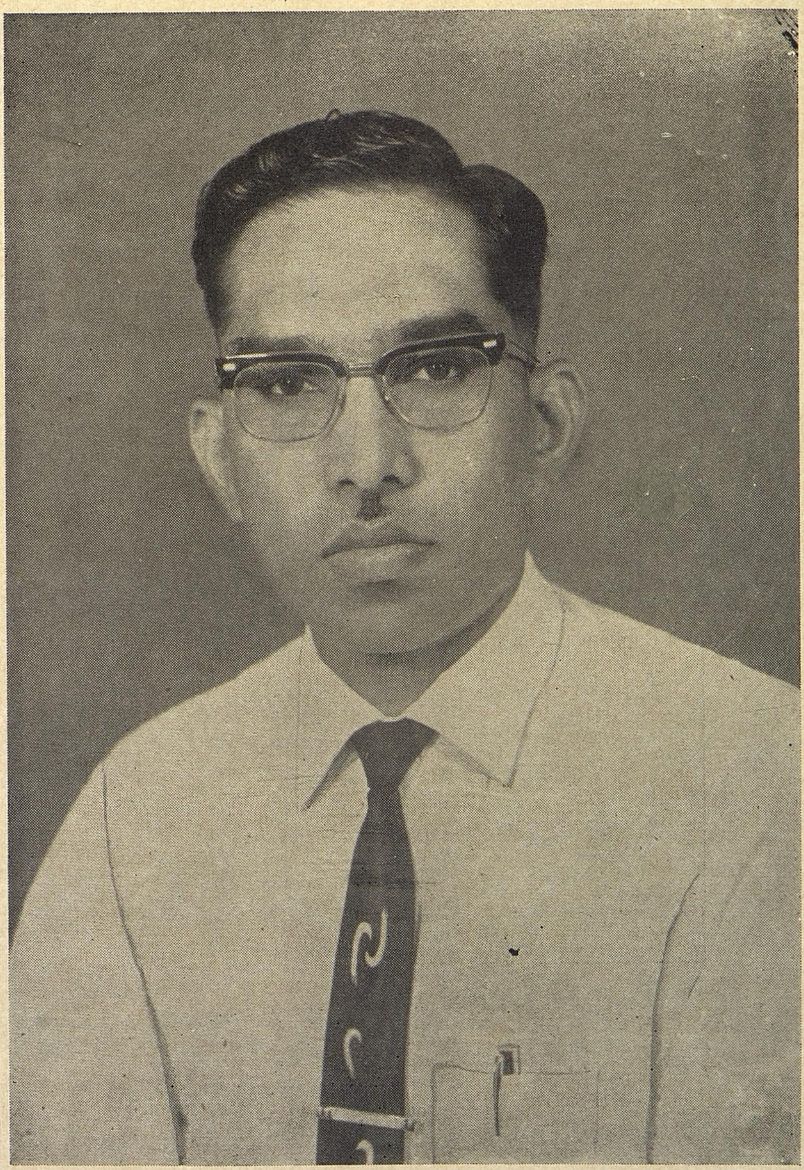

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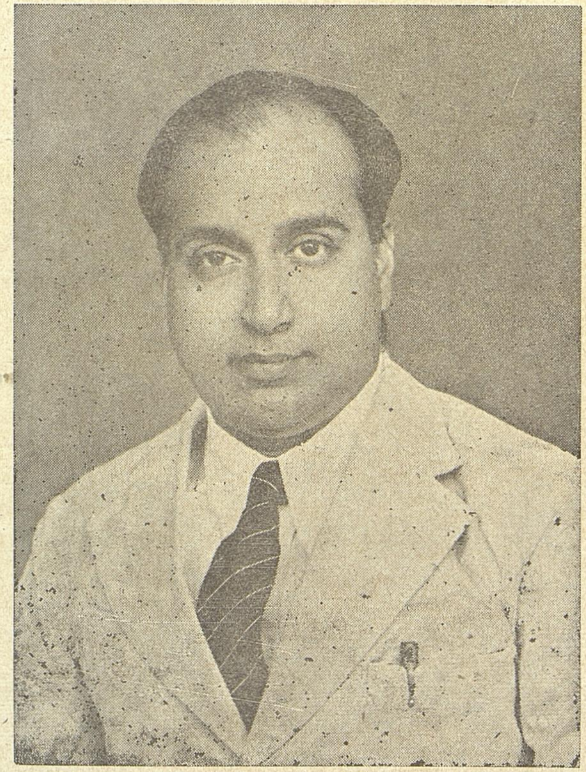

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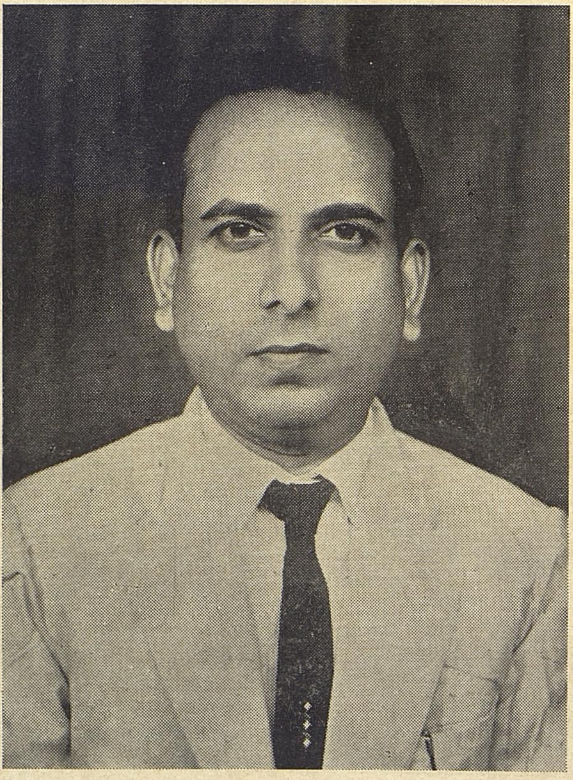

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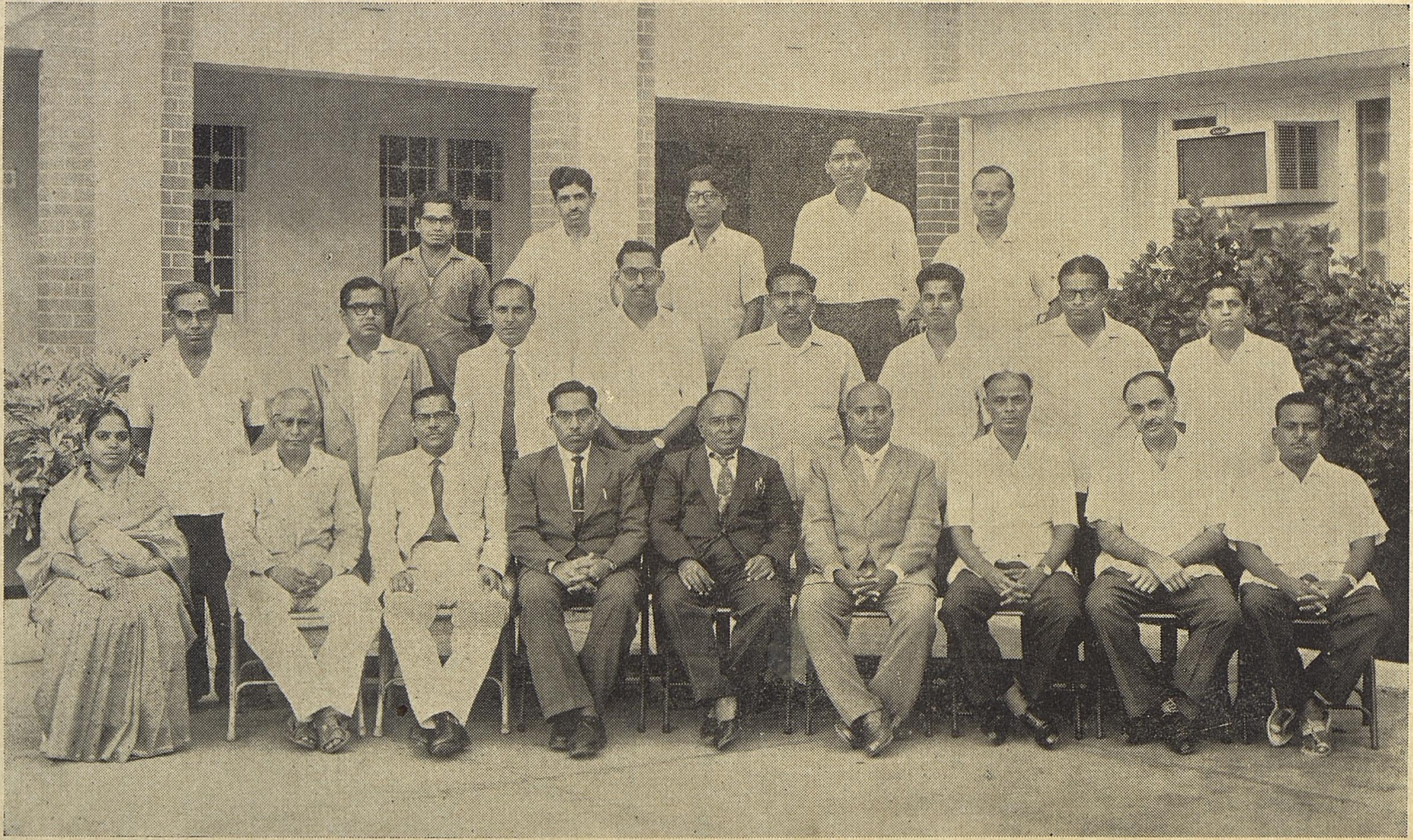

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Private Secretary to the
Minister for Home Affairs,
New Delhi,
25 – 10 – 1966

Sir,

I am desired to acknowledge the receipt of your letter dated 18-10-1966 together with its enclosure; addressed to the Union Home Minister. I wish the Conference every success.

Yours faithfully,
(Sd. ILLEGIBLE),
for Private Secretary to the Home Minister.

C. A. RAMAKRISHNAN, I. C. S.,
CHIEF SECRETARY TO THE GOVERNMENT OF MADRAS

FORT ST. GEORGE,
MADRAS-9.
October 24, 1966.

To
The Editor,
Souvenir of the
Madras State 27th L. I. M. Conference,
No. 5, Agraharam,
SALEM – 5.

Dear Sir,

I am in receipt of your letter dated 18-10-'66 informing me about the proposed 27th Annual Conference of your Association at Salem on 30th and 31st October 1966...............

:........... I wish the Conference all success.

Yours faithfully,
(Sd.) C. A. Ramakrishnan,
24—10—66.

Education and Public Health Department

Letter Ref. No. 114460-H9/66-1, Health.

From

Sri S. KRISHNASWAMI, I. A. S.
Secretary to Government, Madras-9.

To

THE EDITOR,
The Madras State 27th L. I. M. Conference,
Salem, 1966, Office No. 5, Agraharam, Salem-5.

Fort St. George, Madras-9 dated the 26th October, 1966.

Sir,

I am glad to know the Madras State L. I. M. Association is organising its 27th Conference at Salem on 30th and 31st October, 1966 and they are bringing out a Souvenir for the occasion. The need for providing medical aid for the people, particularly those living in rural areas is growing day by day. The doctors holding L. I. M. Diploma can make a useful contribution in that direction especially in rural areas.

I wish the Conference all Success.

Yours faithfully,
(Sd.) S. KRISHNASWAMI,
Secretary to Government.

PROGRAMME

30—10—66 Sunday

9-00 A. M.	Registration of Delegates
9-30 A. M.	Induction of the President to the chair
9-35 A. M.	Prayer
9-40 A. M.	Welcome Address by The Chairman, Reception Committee
10-00 A. M.	Inauguration of the Conference by **Hon'ble. Srimathi JOTHI VENKATACHELLUM,** Minister for Health, Govt. of Madras.
10-10 A. M.	Releasing the Souvenir by **Dr. L. SYLVESTER, M. B., B. S.,** District Medical Officer, Salem.
10-20 A. M.	Presidential Address
11-00 A. M.	Address to the Delegates by The Hon'ble. Minister for Health.
11-45 A. M.	Vote of Thanks.
11-50 A. M.	National Anthem.
12-00 Noon	Intermission.
2-30 P. M.	SCIENTIFIC SESSIONS. President: **Dr. G. T. GOPALAKRISHNAN, L. M. P., L. P. H.,** President Elect : Indian Medical Association, Madras State Branch & Vice-President : Indian Medical Association. (Central) Lecture by **Dr. AL. ANNAMALAI, M. B., M. R. C. P., D. T. M. & H., F. C. C. P.,** Addl. Professor of Medicine, Govt. General Hospital, Madras. on **"Medical Emergencies"**
3-30 P. M.	Intermission — Drinks.

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DR. T. JANARDHANAN, M.B., B.S., M.Sc.,
DIRECTOR

MADRAS

DO Ref. No. 296773-TC/66

Date 25th October, 1966

To

The Secretary,
The Madras State 27th L. I. M. Conference, Salem.
No. 5, Agraharam, Salem-5.

Sir,

I am thankful to your letter dated 18-10-1966 asking me for a message for publication in the Souvenir on the 27th Annual Conference to be held at Salem on 30th and 31st October, 1966. I am happy that the Minister for Health, Smt. Jothi Venkatachellum is inaugurating the function. I was waiting to take part in this Annual Conference for some time. It is very unfortunate that on these days I have to be at New Delhi to attend the Medical Council of India meeting. I have to forego the pleasure of taking part of the L. I. M. Conference at Salem. I am aware of the many of the difficulties of the members of the Madras State L. I. Ms.' Association who periodically made representations about some of their legitimate grievances which were engaging the attention of the Government. The Minister for Health whenever she was discussing the grievances of the L.I.Ms, she has approached the problems with very great sympathy. If the Hon'ble Minister and the Government are not able to solve some of their difficulties, it is because of some technical problems arose in the wake of the regulations forced by the Medical Council of India and other statutory bodies. However, I am sure during the delibrations of this Conference, you will discuss your problems and ask the Government to give your aid for your minimum immediate requirements so that the Government can re-examine many of your pending requests and make a start to achieve your objects.

Yours sincerely,

(Sd.) T. Janardhanan.

T. JANARDHANAN

3-40 P. M.	Lecture by **Dr. R. SARAT CHANDRA, M.S., F.R.C.S., (Eng.), F.R.C.S. (Edin.)** Professor of Surgery, Kilpauk Medical College, Madras on **"Basic Principles of Accident Surgery"**
4-40 P. M.	Lecture by **Dr. ROY EBENEZER, M.B.B.S., M.S., D.O. (Lond.) Cert. (Vienna)** Professor, Ophthalmic Surgeon & Superintendent, Schell Eye Hospital, Vellore. on **"Ophthalmic conditions in general practice and their management."**
5-15 P. M.	President's concluding Remarks.
5-30 P. M.	Vote of Thanks.
8-30 P. M	PANEL DISCUSSION, on **"Uses & Abuses of Steroids, Hormones, Antibiotics, Trianquilizers, Analgesics."** Participants : **Dr. PULIMOOD, M.B., M.R.C.P., — Moderator** Prof. of Medicine. **Dr. P. M. STEPHEN, M.B, M.Sc.** **Dr. V. I. MATHAN, M.B., M.D.** **Dr. J. O. DEVADATTA, M.B., M.S.** **Dr. K. R. KAMATH, M.B., M.D., D.C.H.** C. M. C. & Hospital, Vellore.

31—10—66 Monday

9-00 A. M	GENERAL BODY MEETING President : **Dr. V. NARAYANASWAMY, H.P.I.M., Madras** 1. Secretary's Annual Report. 2. Resolutions. 3. Elections of Office Bearers 4. Vote of Thanks.
1-30 P. M	Trip to Mettur
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நெ. 20, 2-வது அக்ரஹாரம்,

சேலம்-1.

Editorial

We have great pleasure in presenting this Souvenir, on the occasion of the 27th Conference of the Madras State L. I. M. Association at Salem. We have tried our best in making this as useful and impressive as possible. We have received articles from eminent medical men of our State and outside of different fields. The pains we have taken in bringing out this Souvenir is amply rewarded by the large number of articles on various topics. We thank the contributors for their kindness in sending their articles, all of which, we believe, are quite useful in our day-to-day approach and treatment.

We thank the various Pharmaceutical Concerns, the Chemists and Druggists, for their advertisements in the Souvenir. Finally we convey our appreciation to M/s. Literary Press, Salem, our printers, for their workmanship and co-operation in making the Souvenir an attractive volume.

— *EDITOR*.

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1951	to	1952	...	...	Dr. K. Sitaramaiah, L. I. M.
1952	to	1954	...	...	Dr. S. N. Srinivasan, L. I. M.
1954	to	1955	...	...	Dr. V. K. Nair, L. I. M.
1955	to	1961	...	...	Dr. J. V. Badrinarayanan, L. I. M.
1961	to	1963	...	...	Dr. V. Narayanaswamy, H. P. I. M.
1963	to	1964	...	...	Dr V. Narayanaswamy, H. P. I. M.
1964	to	1966	...	...	Dr. V. Narayanaswamy, H. P. I. M.

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1949	to	1950	...	...	Dr. G. Raja Rao, L. I. M.
1950	to	1951	...	...	Dr. Y. Kondal Rao, L. I. M.
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1956	to	1961	...	...	Dr. T. V. Gopalakrishnan, L. I. M.
1961	to	1963	...	...	Dr. D. G. Ramaswamy, L. I. M.
1963	to	1964	...	...	Dr. D. G. Ramaswamy, L. I. M.
1964	to	1966	...	...	Dr. D. G. Ramaswamy, L. I. M.

The Chairman and Members of the Reception Committee

of the

Madras State 27th L. I. M. Conference

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Welcome Address

By

Dr. D. G. RAMASWAMY, L. I. M.,

Chairman, Reception Committee,

The Madras State 27th L. I. M. Conference, Salem.

1966.

Mr. President, Hon. Minister for Health, our respected District Medical Officer, distinguished Guests of the Conference, brother and sister delegates, Ladies and Gentlemen,

It gives me immense pleasure to welcome you all to this 27th Conference of the Madras State L. I. M. Association. We, the members of the Salem District Branch — of course the bifurcated Dharmapuri District too — deem it a privilege to have you all in our midst in this famous town of Salem, that has a dominent place in the Handloom Industrial map of India. I welcome you to this famous town widely well known for its beautiful variety of mangoes. I welcome you all for your sweet company in the course of these two days of the conference.

The arrangement of a State Conference of this nature has been a regular feature of our Association, where, we colleagues, meet, renew our acquaintances, exchange our thoughts, relax and enrich ourselves with the clinical discussions and lectures by various eminent medical men invited to address us.

We meet to discuss the problem and the interests of the members of our Association peculiar to us. This is the occasion we invite the dignitaries of the Government, give them the impression of our unity and professional fraternity to whom we ventilate our grievances, if any. This is the occasion we impress to the public and to the other class of medical men that we are merged with medical relief at large and are identified with the medical profession of our State.

Honourable Madam, this is significant occasion, we have your august presence. We thank you heartily for having consented to inaugurate our Conference at Salem, this time also. We thank you for all your

kindness and affection towards us, when too often we approach you for the protection and enhancement of our professional dignity. We thank you heartily for your special kindness towards us in meeting our demands such as the increase of pay scales, compensatory allowance and absorption into regular Government service. We have problems peculiar to us, which when looked into are quite legitimate. The achievement of some of our demands, is a proof of their legitimacy and your dispassionate and correct approach to the question. You have rendered us justice for which we thank you profusely. We have few more questions to be solved and we appeal to your fair sense of justice and request you to solve them once and for all.

We acknowledge that your merits as a member of the Government are recognised and your service and kindness to the people have won their special admiration. As Minister for Health, your work and sense of devotion to duty is being acknowledged by the people and the Government. It is in the fitness of things that your name must be associated with the Medical Department of our own State for ever. It is gratifying to hear — A whisper looms in the air — that a Medical College in our Madras State is to be named after you. We pay our compliments. We join hands with the sponsors of such a move and congratulate you. May you live long and your fair name live for ever !

As you would know there are hundreds of L. I. Ms. in the State in service and in private practice. This class of men have a separate entity of their own, with no occasion to mix and mingle with other medical Association. In the question of expansion of knowledge, we are to day as "ஏகலைவன்". Having studied for five years and having had the recognition of our training and knowledge, we have no opportunity to study further. We request, the Hon. Minister be pleased to allow us for the condensed D. M. & S. Course. The Indian Medical Association has recommended to the State Governments to start a condensed D. M. & S. Course to the Integrated Medical Practitioners. Our curriculam and syllabus meet fully the requisites of the Indian Medical Association to take up the condensed D. M. & S. Course. The G. C. I. Ms. who are products of our former college of Integrated Medicine are taking this condenced D. M. & S. We understand the last batch of G. C. I. Ms. are to complete their condensed D. M & S. course shortly. We request, that the L. I. Ms. in service and otherwise be allowed to take up the same D. M. & S. course in the Kilpauk Medical College. I may add, the

Integrated Medical Practitioners of other States are allowed to undergo such a condensed D M. & S. course. The Kerala Government have already allowed L. I. Ms. to take up the condensed D. M. & S. Course along with G. C. I. Ms. The Mysore Government is active with the starting of such a condensed course. When that is so, why not our State, the mother State that produced these L. I. Ms have maternal affection and extend to us the benefit of the condensed D. M. & S. It ought to have done earlier, even before the other States initiated. We hope atleast now the Hon. Minister will see to the need and reason and announce that the L. I. Ms. also could take up the condensed D. M. & S.

We thank the Government for their kindness in revising the pay scales of L. I. Ms. This Association has asked for a start of Rs. 250/-. The present scale starts from Rs 225/- and stops with Rs. 350/-. An employee in service starting on a pay of Rs. 225/- would reach his maximum in 15 years time. After his maximum is reached he cannot have further increase in pay nor are there chances of promotion in the Local Body Service. We had in our last Memorandum submitted that the pay scales of L. I. Ms. should be on a par with other Licentiates in Medicine. We request that the maximum be raised to Rs. 500/- atleast.

The another important question that remains to be settled is the question of inclusion of all L. I. Ms. under the Integrated Act, which is before the Government since many years. The Association had made several representations requesting the Government to make amends and enable all L. I. Ms. to get registered under the Integrated Act The act defines that the Diploma Holders of Indigenous Medicine and the Diploma holders of Integrated Medicine shall be registered under the Act. The Government have failed to mention the term "Indian", when already there were hundreds of Integrated Medical Practitioners with their diploma as Indian Medicine. Years before the Act came into force, in 1949, the Government of Madras in their G O. Ms. No. 4159, P. H. dated 23—11—1949, have given a directive that the term "Indian Medicine" should be substituted by the term "Indigenous Medicine" and that the change be brought into force in all the past records and references and for all future laws, enactment, orders, etc. By the virtue of the said G. O. passed in 1949, i. e., 7 years before the Act came into force, the term Indian has been discarded and the term Indigenous automatically came into use. To the spirit of the above said G. O. we requested the Government to register all L. I. Ms. with the Diploma of "Indian Medicine",

under the Integrated Board. Few years before, we received a reply that the matter was under consideration. We are yet to know the finality of this question. We humbly request the Hon. Minister for Health to give directive, to act on the above said G. O. No. 4159 P. H., dated 23-11-1949 and include the earlier batches of L. I. Ms., under the Integrated Act.

The Indian System of Medicine had their ancient glorious past. This system has a potential of its own and there are vast scopes for the improvement of Indian Medicine. Many eminent professors of medicine have tried to understand the application of Indian Medicine for the treatment of various diseases. This Association wants that the improvement of Indian medicine must be brought and wide research should be undertaken by the Government. We firmly believe that any system should be studied, understood, and interpreted in the light of the knowledge of Modern Medical Science. As such we strongly feel that a student studying Indian System of Medicine should be given a thorough knowledge and training in all branches of Modern Medicine, such as Anatomy, Physiology, Pathalogy, including Bacteriology, Surgery, Medicine, and Midwifery including all spceial branches. The assay of drugs, the active ingredients in each drug should be isolated, chemical formula known and then it must be clinically tried and standardised. We believe the improvement of Indian Medicine is possible only with the thorough knowledge of Modern Medical Science. We request the Government to have an Medical Institution on the above suggested line only for the improvement of Indian Medicine.

Before I conclude I welcome you all once again. I thank the Hon. Minister for having accepted to inaugurate this conference. I thank her again for her patient hearing. Brother and Sister delegates, I welcome you all and invite you to share with us the warmth of our welcome. We have tried our best to make good arrangements to you all and request you to condone the inadequacies if any. I thank you — members of the Salem District Branch Association — for having elected me as the Chairman of the Reception Committee for the Conference.

Thank you.

Salem,
30—10—'66.

XXVII L. I. M. Conference, Salem, 30—10—66

Presidential Address

BY

Dr. V. Narayanaswami, H. P. I. M.,
Hon. Director, Captain Srinivasamurthi Research Institute, Madras
Member: Ayurvedic Panel, Planning Commission
Member: Scientific Advisory Committee – Ayurvedic Research, Government of India.

Hon'ble Minister for Public Health,

Chairman, Reception Committee, Ladies and Gentlemen,

I am grateful to the members of the State L. I. M. Association and to the Reception Committee for having elected me again as the President of this conference, for the fourth time in succession. It is not that I merit this honour unreservedly. There are more distinguished members in the ranks of L. I. M. association than myself, who, I am sure, will fill this place with greater distinction and ability. Perhaps I am chosen again, for, during the last one year, the L. I. Ms. have gained a few advantages financially and in official status. It is natural that the president is rewarded for these accomplishments and I am elected again.

But the truth is different. I was chosen only as an instrument. The gratitude and the thanks of the entire L. I. Ms. should go to the Hon'ble Minister for Public Health, Srimathi Jothi Venkatachellum, who consistently helped to solve the various problems during her stewardship in the past four years. Her courtesy to all, sympathy against whom some wrong has been done and love for the down trodden is known to all. I make this public acknowledgement that, when in 1962 the introduction of Panchayat Raj, has thrown a number of L. I. M. Medical Practitioners in a predicament, it was her courageous stand that has put back the officers in their own saddle. I may continue to narrate the various advantages we gained but they are all known to you. And my only prayer at this juncture is that she may continue to be the minister for Public Health for the next five years and then we will pray again in 1972 for another term of service as the minister here or at the centre.

While we are certainly grateful for the advantages gained in the past, we are also conscious of certain other difficulties in the way of progress. I am not going to go through these difficulties elaborately as they are known to the authorities. I will only briefly mention them.

The Government has rightly or wrongly accepted the resolution of the Health Council of India passed in 1963 at the Mahabaleshwar conference. It has

abolished the integrated system of teaching and started school for Siddha System of Indian Medicine at Palayamcottah. It is too early to judge the success or the failure of the venture. Let us hope it would be a success and the alumni of the college of Indian System of Medicine will acquit themselves reflecting well the training they got in the medical relief problems of the State. It should be noted that except the Southern States Andhra, Mysore, Madras and Kerala and Gujarat in the north, none of the other states have agreed to abolish the Integrated system of medicine and introduce Siddha systems of Indian Medicine.

While it is so, the Indian Medical Council, as a corollary of the resolution of the Health Council of India announced, that in States where the integrated system is abolished, to such of those practitioners of integrated system and who are willing to undergo a short term D. M. & S. Course, this may be given and they be absorbed into the allopathic cadre.

It was a very helpful suggestion. Where the Alma Mater of these practitioners are abolished and when no new and fresh sets of practitioners are produced, it is wise to close the ranks by absorbing them in the modern medical cadre. The idea is to have only two sets of practitioners. One the votary of modern system and the other of the ancient systems.

With that object in view, the Madras State started first the D. M. & S. course for the G. C. I. Ms. and latter started the $1\frac{1}{2}$ Years M. B., B. S., Course at Chingleput. We should congratulate the Government on the bold step.

When the question of admission of L. I. Ms. in the D. M. & S. Course was broached upon, the Hon'ble Minister may kindly remember, said that the suggestion may be brought after all the G. C. I. Ms. willing to take the course are given training. We have taken the advice and now we put our claim for the admission in the D. M. & S. Course.

It may be unnecessary for me to go through at this time the necessity for such a course. As early as 1952 when late Sri A. B. Shetty was the Health Minister, with the concurrence of Major General Sangam Lal, the then Director of Medical Services, the L. I. Ms. were given one year House Surgency in District Head Quarters Hospital and appointed as medical officers in modern medicine dispensaries. That is an implicit understanding that the L. I. Ms. have adequate knowledge of modern medicine. The suggestion to have a shortened D. M. & S. Course is only to obviate any objection that may be brought by the Indian Medical Council and to give an explicit recognition. The sooner the course is started it is better for the medical administration in the State. For in another two years the Graduates from the College of Indian Medicine at Palayamcottah may start coming and then the administration will have to deal only with two sets of officers who practice Modern and Indian systems.

There is another matter of importance to the L. I. Ms. It is the registration of the pre 1948 L. I. Ms. in the register of Integrated Medical Practitioners. The Act XXVII of 1956 Clause 11 in unambiguous terms says that, "Any person who possesses the diploma of licentiate in Indigenous Medicine or the diploma of the graduate of the college of Indigenous Medicine granted by the Board of Examiners in Indigenous Medicine shall be deemed to possess the diploma of Licentiate in Integrated Medicine or as the case may be, the diploma of the Graduate of the college of Integrated Medicine granted by the Board of Examiners in Integrated Medicine for all the purposes of this Act". It is clear that all L. I. Ms. and G C. I Ms. come under this act. But by an official error the pre 1948 L. I. Ms. were excluded. The error was that the authorities both in the college and in the Examination Board failed to act on a prior Government Order No. 4159 Education and Public Health dated 23—11—1949. The mandatory Government Order has asked the authorities in the Indian Medicine department to change all the records, papers, enactments etc., from 'Indian Medicine' to the 'Indigenous Medicine'. The authorities satisfied themselves by repainting the Board only in the College of Indian Medicine. They have failed to call for all the papers and records to have them changed.

In 1956 when the Act was passed, the then President of the Central Board of Indian Medicine has brought this to the notice of the Government and he has urged to have the wrong corrected The then Director of Medical Services has written, that due to the reorganisation of the States and the inclusion of Kanyakumari District to the Madras State, the Registration Act is going to be amended when this error also will be corrected. Unfortunately, the amendment to the Act which was unnecessary has dragged on. Finally when the medical Registration Bill was brought by the present Government it has to be dropped for technical reasons. As far as L. I. Ms. prior to 1948 is concerned *Status quo ante* is being maintained.

The Government by an executive order can change the diplomas and registration certificates granted before 1949 according to the Government Order No. 4159. The urgency is all the more now. In about two years time the alumni of the college of Indian Medicine, Palayamcottah will come out and they should be registered. The Act XXVII of 1956 Integrated Medical Practitioners Registration Act will not be applicable to them as they belong to the Siddha System of training. The Central Board of Indian Medicine constituted by Government Order No. 231 Public Health dated 1—2—1933 is the only other organisation under which these candidates have to be registered. That Registration has three categories, 'A' Class registration, by which the practitioners could practise Medicine Surgery, Midwifery and forensic medicine; 'B' Class Practitioners are again classified under B_1 and B_2 namely, those who are trained institutionally and who are only traditional practitioners. There is another class who are called 'C' Class practitioners who

are traditional practitioners and who had the advantage of further six months training in a District Head Quarters Hospital. With these classifications an additional class has to be created. It would be better and less complicated if the L. I. Ms. are removed from this register. If not there is likely to be an unending dispute between the 'A' Class and 'B' Class, one who is trained in Medicine, Surgery and Midwifery and the other who is trained in Medicine alone.

Every state interested in the preservation and the development in Indian Systems of Medicine and make these systems worthy of the modern conditions, should also be interested in Research. In every department of science be it physical or chemical, fundamental or applied sciences, constant research is necessary. In every teaching institution of science, department of research should also be there. If it is so in pure sciences, it is all the more necessary in medical institutions which are teaching applied sciences.

Madras State is claimed as one of the progressive States in Indian Union and till about few years back it was also progressive as far as Indian Medicine was concerned. Due to various policy changes a set back has come. There was a clinical research unit attached to the college of Indian Medicine from 1958. This was partly financed by the Central Government from plan allotments. In 1965 April, this Research department was closed. One does not know who is responsible for the closure. The Central Government has ceased to finance the scheme and the State government perhaps, is not interested in the venture.

The plan allotment for the development of Indian Systems of medicine for the fourth plan period is about 10 crores. The State allotment of the third plan was not utilised for the development of Indian Medicine and for the fourth plan also Madras State may not get any allotment for lack of proper workable schemes. Every other State has got a department of Indian Medicine where Research Schemes are sent to the Centre and after processing, grants-in-aid is sanctioned. It is not so in our State.

Every one who is interested in the development of Indian Medicine and who is aware of the potentialities of Ayurveda, Siddha and Unani in combating the medical problems both preventive and curative, knows that these ancient systems should be explored, developed by research and brought to the level acceptable to the modern scientists. If a teaching institution of medicine has to flourish, there should be post graduate department attached, where investigations on scientific methods are done. Till now we have been satisfied in repeating the achievements of our ancients in the development of medicine. It is true that our Indian systems were highly developed in comparison to the contemporary development of medicine in other countries. But that was a past history. As the civilisation progresses, new problems of medicine come into existence and the medical science also should cope up with

the progress. There is no meaning in repeating that the Indian systems are self sufficient and are capable of dealing with any problem. The basic principles may be applicable at all times but readjustments of details are necessary in this age of loop to prevent conception. Our ancients had no problem of population control. Now we have the problem and whatever knowledge is available we have to adopt.

To have personnel for research is a difficult problem. Persons who are deeply read in the science of Ayurveda and Siddha with no knowledge of modern methodology in scientific experiments is of no use. In the same way modern medical men with no knowledge of Ayurveda or Siddha could not conduct research in these systems. Therefore, fundamental and applied researches in Indian Medicine cannot be started. So research in Indian Medicine is confined only to the analysis of a few drugs and in certain other institutions to the clinical study of certain diseases. No biological, bio-chemical or neurological researches based on the Ayurvedic and Siddha theories of physiology and psychology could be conducted. The personnel to conduct these researches should be those who have not only deeply read in the Indian Classics, but also those who have comparative knowledge of modern system of medicine. If the findings of the research should be beneficial to the world at large, then the language, and the terminology should be one of universal application. If I go on repeating the sloka and explain the excellence of ancient knowledge, it becomes useless to modern medical scientists. If the contention that the Ayurveda or Siddha should develop further and further, then adequate facilities for its development by instituting higher centres of learning are necessary. Paying lip service and asking us to develop in our own line without adulteration and diluting the systems with alien knowledge will not be encouraging. In ancient India knowledge was sought after, imbibed and made our own. In scientific methodology there is no ancient or modern. In any research modern techniques have to be adopted. The results should be made universally applicable. Even now the modern system of medicine imbibes knowledge from other sources and make them its own.

Research is a complicated affair and unless there is the co-operation of scientists one cannot carry on any research. For example, there are two drugs mentioned in Ayurveda which are indicated in the treatment of bone fractures. These are Vajravalli (Cissus Quadrangularis) and Prasnaparani (Uraria lago Paides). These drugs are intended to unite fractured bones expeditiously. Experiments are carried on with these drugs in Banares Hindu University College of Medical Sciences on animals. They found that the ancient statement was true. Fractures are set two weeks earlier than the controlled cases allowed to repair by nature. For such investigations, we want the services of capable surgeons and pharmacologists. To conduct proper investigations, clinical or otherwise, the Ayurvedic physician has to state his requirements and then the modern scientists will work on the schemes. It is impossible in these days of advanced scientific study, for one individual to have the

knowledge of all sciences. Therefore, it is essential that Ayurvedic persons should have the help of other scientists and need not feel shy at all.

Honoured Madam and Friends, I have briefly surveyed the various problems confronting the L. I. Ms. and generally the Indian systems of Medicine. I am sure, that in these two days by your deliberations in the subject committee and in the scientific sessions, you will come to correct conclusions and suggest programmes of work for the next year. We all work with the idea that relief of human suffering is of greater importance than anything else. It was with this idea that our ancients have, for doing charity, for earning money, for enjoying life and even for attaining salvation, considered health was necessary and so the person who gave the health contributes indirectly for the attainment of all the four goals — 'Purushartha' as we say. Profession of Physician is more important than any other profession. That is why one of our ancients had prayed to God that he did not desire a Kingdom on earth or in heaven, not even exemption from rebirths but his only desire being, giving relief to those beings who were afflicted with pain and sufferings.

न त्वाहं कामये राज्यं न स्वर्गं न पुनर्भवम् ।
कामये दुःख तप्तानां प्राणिनां आर्ति नाशनम् ॥

Let that be our prayer also.

Management of Cirrhosis of Liver

by

Dr. R. Subramaniam, M. D., M. R. C. P. (London)

Professor of Medicine, Madras Medical College and Physician, Govt. General Hospital, Madras.

The commonest cause of cirrhosis of liver in Madras General Hospital is secondary to nutritional dificiency. Nutrition in these cases have been very poor in regard to the protein content, some of them having subsisted mainly on rice and very dilute buttermilk (almost mainly made of water to which some buttermilk has been added). With this nutritional deficiency they seem to be living in a very precarious condition which cannot be called clinical cirrhosis of liver but the clinical cirrhosis liver sets in if a precipitating factor is added like infective hepatitis, amoebiasis, malaria, kala-azar, tuberculosis or alcohol. In many of these superadded factors by themselves they do not cause cirrhosis of liver, but in those persons who have been living on a very low protein diet the added factor seems to precipitate cirrhosis of liver. So in the management the first consideration is to find out the added factor that precipitated cirrhosis of liver and eradicate the same if possible. In my wards we always make it a point to examine the motion for Ent. amoebae histolitica and if present it is corrected. It gives very gratifying results. Since dietary deficiency has been a very important factor we start them on a diet which is adequate with regard to animal protein needs of the body, fairly liberal with regard to carbohydrate content and restrict the fat content. We have worked out a diet for the average South Indian patient.

Skimmed milk	1 pint	Oranges	2 pints
Bread	6 oz.	Boiled vegetables	2 ozs.
Sugar	1 oz.	Liver-fry	4 oz.
Boiled rice	6 oz.	Egg	1 oz.
Curds	2 pints	Biscuits	2 ozs.

The diet is suitable for the non-vegetarian and in the case of vegetarian the liver fry and the egg is omitted and in their place the skimmed milk is increased from 1 to 3 pints. It has been our experience that if the patient is straightaway started on this diet, he may not be able to tolerate so much milk having been accustomed to a very low diet and so this should be increased gradually taking about 10 to 15 days before he can stand 3 pints of milk in 24 hours. To satisfy the vitamin needs of the body multivitamins either in the form of a pill or an emulsion can be added to the diet. As far as possible the patient is asked to avoid frying of the food and so long as there is well-marked ascites, the patient is advised to restrict the salt to the extent that is possible for him. Though it is said cirrhosis patients do not have a good appetite, in our wards we have had a number of cirrhosis liver patients whose appetite was not impaired; not only that, they were able to stand a good intake

of protein without exhibiting protein intolerance. Though such a thing is common it is better to go slow with regard to the protein intake; more than once I have seen cases of cirrhosis of liver going in for cholemia because of the very liberal administration of proteins. Where the appetite is poor, the diet should be cut down so that the protein content is about 100 Gm. per day, fat 50 gms. and carbohydrate 350 g. Allowance must be made for the likes and dislikes of the patient, particularly with regard to the administration of proteins. Vegetarians are not able to stand the smell of animal proteins. Instead of forcing an unpalatable diet it is much better to put these patients on milk proteins, temporarily till the swelling is reduced. I have observed milk proteins are much better tolerated than proteins derived from meat or liver or beef or pork. Bulk for bulk the milk protein is utilised better with fewer side reactions. Where the patient can stand a liberal protein intake the recovery is fast. We have done liver biopsy in these cases where the protein is well tolerated and we have noticed recovery of cells as well as the regeneration of liver cells occuring.

To supplement the protein one can use Methionine. It is available as 1½ gram tablets. The recommended dose is 3 tablets 3 times a day after food. With this recommended dose most of our patients developed severe diarrhoea. Instead of improving the patient they will actually worsen the clinical condition. Here again we employ one tablet 1 t. d. s. p. c. for a week or 10 days and if the patient tolerates and no adverse clinical results are noticed then the dose is increased to 2 t. d. s. p. c. Seldom do we raise it beyond 2 t. d. s. p. c. Where for some reason or other oral medication is not satisfactory, the preparation of a combination of methionine with choline is available under the trade name of Methischol, available as 10 cc. vials. 2 cc of this could be given I. M. either daily or on alternate days. This can be given I.V. also. If given I. V. it is best given in a 5% glucose solution drip. One or two c. c. to start with is given I M. If there is no intolerance gradually the dose may be increased from ½ to 1 cc every other day upto 5 cc. With this mode of administration the serum albumin content is raised fairly fast. I have not had any adverse results. This has been given by I. M. route without causing any reaction. Only when it is given I. V. and that too without dilution as in a drip, allergic reactions occur. If glucose drip is being given in addition to Methiscol one can add to the drip nicotinic acid 300 mgms. Vitamin C, 500 mg., Vitamin K 10 mgms, Calcium gluconate 10 cc 10%. With advantage liver extract can also be added to the drip. Before adding liver extract to the drip it is given I. M. to watch for any side effects. If no side effects are noticed then ½ c. c. can be added to the drip; every other day the amount of crude liver extract can be increased by ½ c. c. upto a maximum of 5 cc. Usually I restrict the amount of crude liver extract to 3 cc. Where the patient tolerates this crude liver extract, the results are very much better. Only there are a number of patients who exhibit intolerance to crude liver extract I. V. The results are not so good if the crude liver extract is given I. M. though by this route much larger number of persons are able to take crude liver extract.

In advanced cases of ascites, the patient will not be able to withstand either Methionine or Liver Extract I. V. In these cases only 5% glucose solution is given I. V. To this is added 100 mgm of vitamin B1 and after the drip is started 10 to 20 units of P. Z. Insulin is given s c. Here because the patient cannot withstand any protein at all it is completely avoided in the drip. Insulin is given in order to fix the glucose in the liver. After starting glucose P. Z. insulin is given. By giving this drip for a few days even advanced cases of cirrhosis of liver show signs of clinical improvement. To correct the protein deficiency oral administration of hydrolysed protein can also be given or protein in the form of a hydrolysed protein. In this country albumin is not available for I. V. use. The cost is prohibitive for daily use. I. V. use of salt poor albumin may cause pulmonary oedema, fever and bleeding from the oesophageal varices. Congestive failure also may be precipitated even in younger patients. The I. V. administration of albumin stays longer in cirrhotics with ascites as compared with normal subjects as also cases of cirrhosis liver without ascites. For administration albumin sensitivity should be tested. Since some of these patients are likely to have poor appetite, to improve the appetite, an Italian worker has suggested administration of Androgen 100 mg. daily. I have been using Aqua Viron 25 mg. ampoules, 4 ampoules I. M. daily for 12 days and once 12 injections are over once a week, 100 mgs for 12 weeks. The administration of Androgenic hormone produces a sense of well-being, makes the patient take interest in his surroundings, fixes the protein in the body with the result albumin content of the serum rises fairly fast. This therapy is not suitable for female patients. In the male patients it is very well tolerated and no virilising effective has been noted by us in any of our cases.

Where blood transfusion is available it can be given with great advantage and repeated at intervals of a fortnight or 3 weeks. It is not necessary to give a large amount of blood even 8 or 10 ozs of blood; preferably as pack cells transfusion gives excellent results. The great objection to the blood transfusion is the nonavailability of blood but whole blood is better tolerated by the patients than the salt low albumin. The other serious drawback is, we are adding to the load on the myocardium. If there is gross ascites, parasentesis should be done; the ascites should be removed and a day after the paracentesis, blood transfusion may be attempted.

Since the main discomfort of the patient is the ascites, as often as it causes discomfort by its accumulation, paracentesis must be done. While it is necessary to do paracentesis abdominis when there is discomfort, we should not do unnecessarily or too frequently as ascitic fluid contains protein. This ascitic fluid by proper treatment may be made to get absorbed in the body thus avoiding protein wastage. After paracentesis has been done, the patient could be treated either with mercurial diuretics or Aldactone A. Mercurial diuretics should not be given too frequently. If given frequently, being a heavy metal by itself, may cause damage to the liver. They are best given at intervals of a week or 10 days and not oftener than that,

either as a supplement to the mercurial diuretics or to maintain the diuresis in between the mercurial diuretics one can employ Aldactone A. This is an Aldasterone antagonist and comparatively very costly. The claim that is made for Aldactone is that it does not cause hepatic coma. The sulpha compound which I have employed in my wards without producing serious side effects is Triampterene available under the trade name Dytac. Both Triampterene and Aldactone should be used cautiously. Though the claim is that neither of them causes cholemia, I have had cases in which the administration of these compounds have precipitated cholemia. They are as far as possible to be avoided but if for some reason or other, it is decided to employ them, they should be used in the smallest amount possible and also while employing them, Chlortetracycline (Achromycin) should also be used to avoid precipitating cholemia. While using Dytac (Triampterene) it is advantageous to supplement potassium orally. Potassium is best administered in the form of syrup and a number of products are available in the market and the one that I use routinely is Alkasim-A. Potassium in the form of tablets has been known to cause intestinal ulceration, bleeding and perforation and so it should be avoided in that form. The other alternative will be to use potassium in the natural form, i. e., the patient can be asked to take orange juice, one or two glasses every time he takes Triampterene tablets.

Where the patients are constipated the patient can be put on ½ oz. Mag sulph in an ounce of water to which may be added Tr. Zingiberis, 10 to 15 min. The Tr. Zingiberis is added to take away the gripping pain that sometimes occurs with Mag. Sulph administration. If Mag Sulph produces too many loose motions, the dose can be reduced from half an ounce to quarter of an oz. If on the other hand no motion occurs, the dose can be increased. The whole idea is to produce one free motion so that a certain amount of water may be depleted by keeping the bowel open.

Where the ascites is intractable, where response to the treatment that I have already outlined is poor, the patient is put on raw diet consisting of raw tomato juice, orange juice, plantain fruits and other uncooked food as much as possible. The idea is to put the patient on a diet which is low in regard to salt intake and at the same time the mineral content is not low, with the result, excellent diuresis occurs and aids in recovery. As recovery occurs cooked food with buttermilk or vegetable soup may also be given. So long as there is ascites patient must be kept at bed rest as this procedure takes away the strain on the myocardium and causes good diuresis to occur. Where hepatic coma has been precipitated the patient is nursed only on I. V. glucose and so long as he is unconscious, he will be given chlortetracycline, either I. M. or I. V. upto 500 mgm b. d. When once he gets out of the coma chlortetracycline can be given as 250 mgm capsules, 1 capsule 6th hourly. Generally it takes 48 to 78 hours for the patient to come out of coma. The earlier the treatment is started the better is the result. After an attack of coma, how long the patient will

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be free from relapse, cannot be predicted. Some times it may be as long as 6 or 8 months and at other times as short as 6 or 8 hours. The shorter the interval between one attack of a coma and another the worse the prognosis. Each attack of coma makes the prognosis bad. We had had recoveries even after as many as five attacks of coma but the greater the number, the worse the prognosis.

A very serious complication that may occur in cirrhosis of liver is hemetemesis. This is particularly likely to be seen in the course of alcoholic cirrhosis liver. To one and the only means of recovery of these patients is by giving enough blood transfusion to replace the blood loss and to keep the body electrolytes normal. If this is not done chances of survival is very remote. In the last few years i. e., from 1952 onwards I have been using, to start with liquid extract of Eclipta leaves. Now I am using eclipta leaves which is dried, powdered and compressed into a tablet. They are available as $\frac{1}{2}$ gram tablets under the trade name of Eclipta tablets. To start with, one tablet t. d. s. p. c is given and once the patient stands the dose, it is increased to 2 t. d. s. p. c. The side effect that is now and then met with is a tendency for looseness of bowels. As the patient continues to take these pills, ascites gradually clears, the serum albumin rises and once the serum albumin exceeds 3 Gm%, ascites clears. The administration of Eclipta tablets does not mean the other lines of treatment can be ignored. It can only be considered as very useful supplement to the other general line of treatment.

Prophylaxis: This includes abstention from alcohol and treatment of corrective factors like anaemia, amoebiasis, tuberculosis and syphilis. One should bear in mind, one is dealing with a case of damaged liver and he is not likely to stand narcotic drugs. These patients also do not stand well the normal dose of either phenobarbitone and opium derivatives. The drug of choice to control the excitement in these cases is to use Paraldehyde. The Golden rule is to avoid as far as possible sedatives, hypnotics and analgestic drugs. The diet should be adequate with regard to the protein content. The protein should be first class, i. e., of animal origin. Even a vegetarian can take enough of milk and milk products to get the animal proteins.

Art of Auscultation in Cardiovascular Diseases.

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Elaborate apparatus unfortunately at times tends to supersede thought and sound clinical medicine. In recent years, there are so many various investigations that have been evolved to detect the various cardiovascular diseases. Still the auscultation of the patient at the bed side can give us much more information regarding the malady. And, in most of the instances, one can reasonably arrive at the proper diagnosis without resort to expensive investigations, like angiocardiography, cardiac cathererisation which are fraught with greater danger.

We can vividly recall our past when we were pretty eager to own a stethescope in our early medical student career. The stethescope in one of the personal and precision instrument of a doctor which should be selected with particular care and preserved like one's fountain pen. It is not the person alone behind the stethescope that matters but good instrument also in the auscultation of cardiovascular diseases to correctly receive and interpret the various sounds and murmurs. It was a French Physician LAENNEC, who first discovered a monoaural stethescope. This was a single wooden piece with a funnel shaped chest piece at one end and small flat ear piece at the other. Later, Bin-aural stethoscope came into prominence.

A good stethoscope should have a thick rubber tubing to prevent extraneous noises with an internal diameter of ⅛″ and about 10″ long and should fit snugly to all connections. The ear pieces have to fit the canals tightly without discomfort to assume optimal auscultation The best results are achieved with continuous use of the same and single stethoscope in the auscultation. The pernicious habit of picking up any stethoscope in the hospital ward is to be highly deplored. Even though there are as many as 32 various chest pieces, an ideal one should have : (a) Bell, and (b) Bowle's diaphragm chest pieces. The diameter of the Bowle's chest piece should be about 1½″, cup should be shallow and its edge sharp. The common practice of substituting X-ray film for the diaphragm supplied by the manufacturer is not advised. The cup of the Bell Chest piece should not be too deep, and its diameter not less than an inch. The various chest pieces are not mere ornaments to a physician or to impress upon the lay public. Bell chest piece applied lightly is useful

for detecting low pitched sounds like mitral diastolic murmur. Moreover, it can be applied to supraclavicular areas, to intercostal spaces, over the eye for auscultating the bruit and over the neck. The high pitched sounds like the aortic diastolic murmur and the faint tubular breathing are better heard with Bowle's diaphragm chest piece applied firmly. The diaphragm chest piece is convenient for auscultating the back and the auxillary regions.

Auscultation of the heart can be learned only at the bedside. It should be known that the heart sounds and murmurs vary in intensity and character with various positions of the patient, like lying, sitting, leaning forward, left lateral, etc., and various phases of respiration. Certain murmurs are better brought out when the heart is accelerated as in infection, exercise and emotion, and sometimes more details can be made out when the heart is slowed either by carotid compression or pressure over eye balls. The carotid sinus massage is done on one side first, and if there is no adequate response, the massaging can be done in the opposite side. Bilateral carotid sinus compression is done only under E. C. G. monitering.

In auscultating the heart, the whole precordium should be examined inch by inch and not only over the areas where individual valve sounds are expected, lest one might miss the gallop rhythm, pericardial friction sounds and certain important murmurs over the collaterals. It should be realised that the normal heart sounds do not rule out the possibility of diseased heart and conversely the physiological variations such as a splitting of the normal heart sound and addition of extra sound such as third heart sound as in children may be encountered in a perfectly healthy heart.

Heart Sounds :

The first heart sound is mainly due to closure of mitral and tricuspid valves. The intensity of the First heart sound depends upon (1) the position of the valve leaflets at the beginning of ventricular systole; and (2) upon the P–R interval. In Mitral Stenosis, the First heart sound is loud, sharp and high pitched (unless the valve is calcified), which is due to the high pressure gradient between the left atrium and the left verticle. In short, P–R interval and atrial contraction keeps the valve leaflets open till the onset of ventricular systole resulting in a loud First heart sound as in complete heart block. (Cannon's Sound.) In W-P-W syndrome also, the First heart sound is loud due to shortened P–R interval. In thin chest wall and in a hyperkinetic circulatory state, the First heart sound is loud due to high pressure gradient. The diminished intensity of the First heart sound may be due to physiological causes, as thick chest wall, or due to emphysema, pericardial effusion, shock, peripheral failure and when the P–R interval is over 0.16 sec. The sound may be masked by a loud murmur. In that case, auscultation of one space above or below will give the details of the sound. The splitting of the First heart sound

can be heard normally during the expiration due to the mitral valve closing 0.02 to 0.03 secs., earlier than the Tricuspid valve. It is best heard in the Tricuspid area. The pathological splitting of the First sound is due to complete Right and Left Bundle Branch Block due to asynchronous contraction of the ventricles and asynchronous closure of A–V valves, and when P–R interval is prolonged. The First sound may be varying in intensity in certain cases of cardiac arrhythmias. In cases of complete heart block when the rate is slow, the first heart sound will vary in intensity and loud and explosive sounds may be heard (Cannon's sound). In atrial fibrillation, when the rate is over hundred, the first sound varies in intensity. In ventricular tachy cardia, where the rate is over 150, the first sound varies in the intensity with each cardiac cycle. This phenomenon can be found in nodal rhythm, Wenckebach phenomenon and interference dissociation.

Occasionally, the First heart sound has a definite presystolic crescendo quality which can mimic Mitral stenosis. In those cases, if the patient holds his breath in inspiration, the presystolic crescendo component usually disappears and the First heart sound is cleared up.

The Second heart sound is due to closure of aortic semilunar valves followed by that of pulmonary valve. The aortic valve closes little earlier than the pulmonary valve. The second sound is best heard at the base of the heart—shorter in duration, higher in pitch and sudden in character. In children and young adults, the second heart sound is louder in pulmonary area than in aortic area. In normal persons, the splitting of the second sound can be heard in the pulmonary area, Third left intercostal space close to the sternum.

The second sound is loud when the aorta or pulmonary artery is close to the chest wall and the intervening lung tissue or chest wall is not thick. Pathologically, the second sound is accentuated and remains loud even after treatment of pulmonary or systemic hypertension. The clinical picture and the site of maximum intensity may only decide the clinical diagnosis. The aortic second sound is loud and ringing in systemic hypertension, syphilitic aortitis, aneurysm of the ascending aorta and atherosclerosis. The pulmonary component of the second sound is loud in cases of pulmonary hypertension and dilatation of the pulmonary artery. The second sound becomes soft in aortic or pulmonary stenosis, systemic hypertension and peripheral circulatory failures, and left ventricular failure. The second sound varies in intensity with the onset of atrial fibrillation

The split of the second sound widens during inspiration as the right ventricular contraction time is prolonged from increased venous filling and gets narrowed during expiration.

SPLIT

- Absent Split
  - Physiological
    - a. Rapid heart
    - b. Thich chest wall
  - Pathological
    - a. Emphysema
    - b. Fallots' Tetralogy
    - c. Loud murmur masking the split
- Closed Split
  - Physiological (widening during inspiration & narrowing during expiration)
  - Pathological (Pulmonary Hypertension)
- Wide Split
  - Varying with phases of Respiration
    - Widening during inspiration
      - (1) Pulmonary Stenosis
    - Widening during expiration (Paradoxical or Reversed split)
      - (1) Lt. Bundle Branch Block
      - (2) Aortic Stenosis
  - Fixed Split e. g. Atrial septal defect (ostecum secondum)

Recognition of split sound denotes that both the semilunar valves are functioning and excludes persistent Truncus, pulmonary atresia and severe pulmonary stenosis. When the split is masked by a murmur auscultation of one space above or below will indicate the nature of the sounds.

The physiological third heart sound is a soft low pitched sound localised to the apex which varies in intensity with respiration. It is better heard with the patient lying on his back or in the left lateral position, at the beginning of expiration and disappearing during held inspiration. The Bell chest piece is ideal for detecting it. It is normally heard in children, young adults and pregnant women. This third heart sound gets accentuated when there is rapid ventricular filling like hypertension, myocardial infarctions, Mitral incompetence, V-S-D., P-D-A., and Pick's disease. In left ventricular failure, the rhythm produced by third heart sound is known as 'Filling Gallop' (Diastolic gallop).

The diastolic gallop can be easily identified with the bell stethoscope lightly applied at the apex or somewhat medial to it.

The filling gallop is accentuated by—

(1) Valsalva maneuvre :

(2) Coughing :

(3) Lying supine :

(4) Raising the legs :

(5) Left lateral decubitus :

If an atrial gallop is detected in a case of myocardial infarction who is normotensive at the time of the examination, it indicates past or previous hypertension.

Fourth Heart Sound :

The first mechanical event in cardiac cycle is atrial contraction which may produce audible sound. This is a low frequency sound which can be better heard with a bell stethoscope, normally in children. When the atria contract against increased ventricular resistance as in severe hypertension on the left side or against the right ventricle in pulmonary hypertension on the right side, it produces a triple rhythm known as atrial gallop (Presystolic gallop). The fourth heart sound may be audible in A–V dissociation of complete heart block : A–S–D. Ebstein anomaly or in delay in A–V conduction. In fast heart rates, it is difficult to determine whether the gallop rhythm is atrial or ventricular variety. In such cases, the slowing of the heart through careful carotid sinus massage will help us. If the gallop "stays with the second sound", it is ventricular type. If it "moves with the first heart sound", it is atrial variety.

If both filling gallop and atrial gallop are heard in one and the same patient, it is called cog-wheel or locomotive gallop.

Summation gallop is due to fusion or summation of the atrial sound with normal or accentuated third heart sound. It is common in hypertensive heart diseases and coronary heart diseases. It indicates failing myocardium.

Systolic Clicks :

These are ejection clicks which may be aortic or pulmonary occurring after the opening of pulmonary or aortic valve. The middle and late systolic clicks are heard louder at the apex and are of no pathological significance.

The early aortic clicks in aortic aneurysm, diffuse aortic dilatation, systemic hypertension, mild and moderate aortic stenosis, aortic insufficiency, coarctation of Aorta and tetralogy of Fallots.

The pulmonic clicks are heard best in the pulmonary artery like pulmonary hypertension, A–S–D V–S–D. mild and moderate A–S and in hyper dynamic states like Anaemia, Thyrotoxicosis, Beri-beri. The click denotes the severity of stenosis in valvular stenosis.

Opening Snap :

It is a high pitched snapping, sharp sound occurring between second and third heart sound after .07 sec. after aortic second sound. The closer it is to the second sound, the tighter is the stenosis. The opening snap is absent in early cases of mitral stenosis, when the mitral valves are calcified, mitral stenosis associated with mitral incompetence. It occurs only when the mitral of Tricuspid valves are diseased.

Murmurs are due to vibration of valves, heart walls and walls of the great vessels. The presence of a murmur does not imply a diseased heart, as so many innocent murmurs are found in healthy hearts So also serious heart diseases, like myocardial infarction congenital heart diseases may exist without murmurs. It is the length and duration which is of greater significance than the intensity or loudness of murmur. Innocent murmurs are usually altered by phases of respiration and various positions. Diastolic murmurs are more often due to organic causes, whereas the systolic murmur may be innocent.

When hearing a murmur, the following points have to be carefully noted :

(a) Timing in relation to heart sounds :

(b) Site of maximum intensity :

(c) Extent over which it is heard :

(d) Area of selective propagation :

(e) Intensity, duration, character and pitch :

(f) What alters the murmur - position, respiration and exercise :

(g) Co-existence of a thrill :

(h) Associated signs of heart diseases :

SYSTOLIC MURMUR :

(a) **Pansystolic or Halosystolic :**

This murmur begins early after the first sound and ends late by embracing the aortic element of the second sound due to the blood flow from a high pressure chamber to low pressure chamber throughout systole.

It may be found in —

(1) Mitral Incompetence

(2) V-S-D.

(3) Tricuspid Incompetence

(4) P-D-A in childhood.

It is a loud and blowing murmur maximal over the apex in Mitral Incompetence and may or may not be conducted to the inferior angle of the scapula. It is fainter during inspiration, heard well with a diaphragm chest piece. In Tricuspid incompetence, the blowing high pitched murmur is better heard during inspiration over the lower end of the sternum. In ventricular septal defect the pansystolic murmur is loud, long and harsh maximal in third and fourth left intercostal space close to the sternum associated with a thrill and may be heard over the entire praecordium and back.

(b) Midsystolic or Ejection Systolic Murmur :

These are associated with forward flow of blood through the aortic or pulmonary valve or the valve narrowed or vessel beyond it dilated. The murmur begins after the First sound and ends invariably before the second sound and has a crescendo character in midsystole.

In aortic stenosis, the ejection systolic murmur is short, rough and very loud. It is best heard over aortic area and transmitted extensively to the apical area and at times to the back and arms. The mid systolic murmur is heard over the aortic area in the following conditions:

(1) Coarctation of aorta.

(2) Aortic Incompetence without stenosis.

(3) Aortic dilatation due to atheroma or syphilitic aortic aneurysm.

In pulmonary stenosis, the ejection systolic murmur is long drawn, loud, harsh and ends before the pulmonic component of the secound sound. This is more or less confined to pulmonary area or Third left intercostal space close to the sternum. The intensity of the murmur is directly proportional to the severity of the disease. In Atrial septal defect, increased flow across the pulmonary valve may produce an ejection systolic murmur in the pulmonary area. In Fallots tetralogy, where there is a pulmonary stenosis associated with high ventricular septal defect, an ejection systolic murmur in pulmonary area is heard. Here the intensity and the duration of the murmur vary inversely with the severity of the pulmonary stenosis. Milder the defect, the longer and louder the ejection murmur and vice versa

The ejection systolic murmur is heard in cases of increased cardiac output like anaemia, Thyrotoxicosis, Beri-beri, pregnancy etc. The pulmonary artery dilatation due to pulmonary hypertension also produces ejection systolic murmur starting with a click and ending in a loud P-2.

As mentioned already, there are various innocent systolic murmurs heard over the pulmonary area, especially in children, during exercise, emotion and in pregnancy. These innocent murmurs are always midsystolic, soft, localised, may be even evanascent without replacing or masking sounds. No cardiac enlargement or organic disease is noted along with them.

Diastolic Murmur :

These murmurs occur during ventricular diastole and they can be early, mid or late depending upon their relationship to heart sounds. In Mitral stenosis, there is a mid and late diastolic murmur ending in loud mitral first sound. This murmur is rough, rumbling, low pitched one, starting after the mitral snap and strictly localised to an area just within the cardiac apex. It is best heard with a Bell stethoscope lightly applied over the area as the patient turns from supine to left lateral position. The murmur can be accentuated by increasing the heart rate by exercise, emotion or inhalation of amylnitrate, and at the end of expiration. The duration and intensity of the murmur depend upon the severity of stenosis. The mid-diastolic murmur does not disappear after the onset of atrial fibrillation or with valve calcification. With the onset of atrial fibrillation, presystolic murmur usually disappears. But it may persist in the presence of pressure gradient being maintained upto the beginning of the isometric contraction of the ventricle. Usually, the atrial contraction maintains the pressure gradient and this may disappear after the onset of atrial fibrillation. The presystolic murmur of Austin Flint, which is very difficult to distinguish from mitral stentoic murmur, is heard at the mitral area in a case of fully developed aortic incompetence. It is also low pitched, rumbling but without a thrill with evidence of left ventricular enlargement. In acute rheumatic fever, due to active carditis, a soft, short, mid-diastolic murmur may be heard at the mitral area with the Bell stethoscope (CAREY-COOMBS).

In V-S-D., P-D-A., mitral incompetence due to a high rate of flow of blood through the mitral valve, there may be a soft, short, mid-diastolic murmur heard in the mitral area. So also in A-S-D. due torrential blood flow across the tricuspid valve, a mid-diastolic murmur may be heard over the tricuspid area. Presystolic murmur of tricuspid stenosis is identical to mitral presystolic murmur, but located near the left border of lower end sternum, and is accentuated during inspiration and slightly higher pitched than the mitral.

REGURGITANT OR ARTERIAL DIASTOLIC MURMUR :

Aortic Incompetence :

Here is an early diastolic murmur which is high pitched and blowing, best heard with the patient sitting, leaning forwards with a diaphragm chest piece held firmly at the expiration, either in the aortic area or down the left border of the

sternum or over the mitral area when the heart slows down after exercise. In syphilitic aortic leak due to the dilated aorta and in Marfan's Syndrome, the murmur is better heard in the second right space close to the sternum or along the right sternal border. A loud, high pitched, musical, diastolic murmur in the Third left space or in the Second space is due to retroverted or torn cusp.

The pulmonary incompetence murmur is similar to aortic leak murmur, but strictly localised to pulmonary area or Third left space without the peripheral evidence of aortic incompetence. This can be found in pulmonary hypertension or in dilated pulmonary artery. (GRAHAM'S STEEL).

The dilated aortic ring due to systemic hypertension or syphylitic aneurysm may produce a classical early diastolic murmur. Sudden development of diastolic murmur in a case of systemic hypertension is suggestive of Dissecting aneursym of aorta.

Continuous Murmur :

A murmur which continues throughout the cardiac cycle extending on both the systole and diastole. There is continuous flow of blood from high pressure area during systole and diastole as in P-D-A. There is accentuation of the murmur in the late systole. The causes are :

(1) **P-D-A :**

Murmur Localised to pulmonary area and best heard when the patient is supine position :

(2) **Aorta pulmonary window :**

Murmur in the second or third space close to midline :

(3) **Rupture of sinus of valsalva into the right ventricle or pulmonary artery :**

— along the right border of the sternum :

(4) **A. V. Fistula :**

(a) In the lung :

(b) In coronary circulation :

(c) In chest wall :

(5) **V-S-D. with aortic Incompetence :**

(6) Pulmonary atresia with Broncho pulmonary collaterals on both sides of the chest : more in the right side and high up arteriorily :

(7) **Pulmonary coarctation :**

(8) **Venous Hum :**

To and fro murmur :

In to and fro murmurs, there is mid-systolic and diastolic murmur as in aortic stenosis with incompetence. The blood must change its direction of flow for the production of to and fro murmur and hence there is pause between the systolic and diastolic murmur.

Pericardial friction rub :

This is an exocardial sound characterized by scratching, rubbing, creaking or shuffling quality with higher frequency components. This does not coincide with any phase of cardiac cycle and often rides astride both heart sounds. It may be to and fro or confined to one phase of the cardiac cycle and is superficial and closer to the ear which can be accentuated with firm pressure through the diaphragm chest piece. Too much of pressure abolishes the sounds. The site of maximum intensity is over the cardiac apex, bare area of the heart, base of the heart and in the interscapular region in the back. It is always localised and may vary in intensity and character from day to day and may be evanescent. The rub can be better brought out in the upright position with the chest propped forwards. It is unaffected by phases of respiration

Extra cardiac sounds which are synchronous with heart sounds are sometimes due to compression of the adjacent air filled portion of the lung. They are increased in inspiration and deeply held in inspiration and abolished by deep expiration. In thyrotoxicosis there is a scratching systolic noise heard along the left sternal border simulating pericardial rub.

Arterial auscultation :

Carotoid arteries :

Auscultation of the carotid arteries forms part and parcel of the auscultation of the heart. The Bell stethoscope is applied lightly over the carotids. In aortic stenosis mid systolic murmur heard in the aortic area is conducted up the carotids. In aortic incompetence and other hyperdynamic states, like thyrotoxicosis, anaemia, Paget's disease, fever, there is a systolic murmur heard over both carotids. In a case of carotid hemiplegia, auscultation of the extra cranial portion of the internal cartid artery in the cervical region may give the following information regarding the state of circulation. In a case of complete internal carotid artery occulsion, no murmur will be heard at the same side of occulsion But a systolic murmur may be heard on the opposite internal carotid artery, eye ball, over the frontal area of the skull or cheek bones due to presence of efficient collateral circulation.

In a case of partial internal carotid occulsion systolic murmur will be heard on the same side of arterial occulsion.

Auscultation is useful to detect partial obstruction with good collaterals in a case of extracranial obstruction.

Vertebral arteries :

The common site of obstruction is at its origin at the subclavian artery, a site in which the murmur will be little difficult to identify.

In a case of sub archnoid haemorrhage, where A–V malformation is suspected routine auscultation of the scalp with the bell stethoscope may reveal a systolic bruit indicating the site of aneurysm. In suspected A–V malformation, different sites have to auscultated in different positions on different days lest one might miss the bruit.

Auscultation of eye :

This is useful in a case of exopthalmos which may be pulsating or non-pulsating. The Bell stethoscope is lightly applied over the closed eye ball with the other eye open and fixed at a distant object. The systolic bruit may indicate the carotico - cavernous fistule. Auscultation of the eye is useful in a case of severe anaemia, a systolic bruit may be heard. Normally it is heard in children.

Coarctation of aorta :

The bruit may indicate —

(1) Site of occulsion :

(2) Associated anomalies of subclavian and renal arteries :

(3) The efficiency of collaterals :

When the bruit is heard on both sides of the chest, the site of occulsion is at the classical site If murmurs are presistent in only lower abdomen and back and none in the upper half of the body, it will mean an abdominal coarctation. One side alone shows evidence of bruit, it would mean, that the opposite subclavian artery is implicated in the coarctation or arise distal to coarctation.

Renal Artery Stenosis :

The systolic bruit is heard over the partially occluded main vessel artery with pressure gradient of 40 mm. across the obstruction, in the umbilical or in the lumbar areas. If the stenosis is in one of the segmental arteries in the paranchyma of the kidney, ausculcation may not reveal any features.

In an aortic leak systolic murmur may be heard over the femoral artery if the vessal is compressed, due to vibrations produced by the rapid flow of blood past an obstruction. A diastolic murmur heard over the femorals above the point of obstruction is due to regurgitation of blood towards the heart. (DUROZIEZ)

In primary thyrotoxicosis systolic bruit is heard with a Bell stethoscope over the apex of the thyroid with patient in recumbent position and head turned towards the opposite side.

Whenever there is highly malignant tumour, systolic bruit is heard over the mass indicating high vascularity. Arterial obstruction without good collaterals produce a systolic and diastolic murmur. But good collaterals produce a systolic bruit alone, as there is diastolic pressure gradient between the artery and collaterals.

Venous auscultation :

Venous Hum :

Venous hum is a continuous murmur with a humming character heard at the base of the neck on the right side of the neck with the head turned to the opposite side. Usually in children, accentuated during inspiration. In anaemia, venous hum is very well heard. The hum can be abolished by occulsion of the Jugular vein or by various positions of the patient and by various phases of respiration

Venous hum in Cruveilheir Baum Garten syndrome :

There is a roaring low pitched murmur with no systolic or diastolic accentuation, is heard in the paraumblical or para-xyphoid regions over the tortuous veins. The murmur gets intensified during deep inspiration, half an hour after food and pressure over the spleen. It is heard in the erect and lying postures more in the erect

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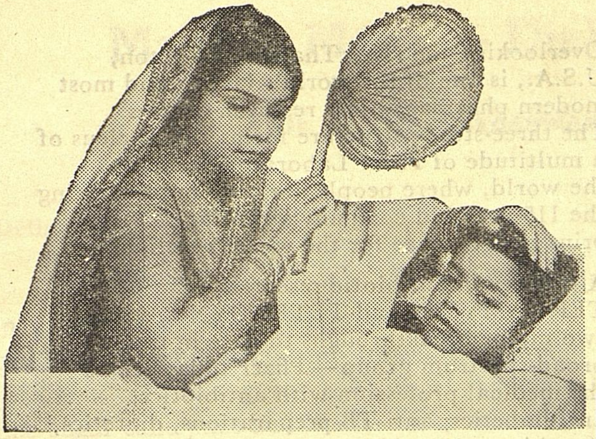
Our thanks are due to Dean, Government General Hospital, for permitting us to publish this article and to Dr. Veerabahu, Post Graduate in Medicine for helping us in compiling this article.

* * * * *

After having been treated by a psychiatrist, the patient was being dismissed. " Doctor, " he asked anxiously, " are you sure I am finally cured ? " " Yes, " the doctor reassured him. " I feel quite certain we have your Klepto-mania under control, and you can function just like any one else." " Oh, Doctor, I am so grateful, " the patient said. " What can I do to repay you ? " " My fee is ample payment ", the analyst replied. " If, however you should feel a relapse coming on, you might pick up a small transistor radio for my son. "



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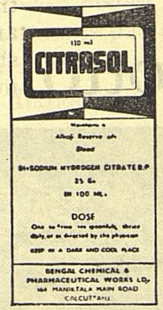

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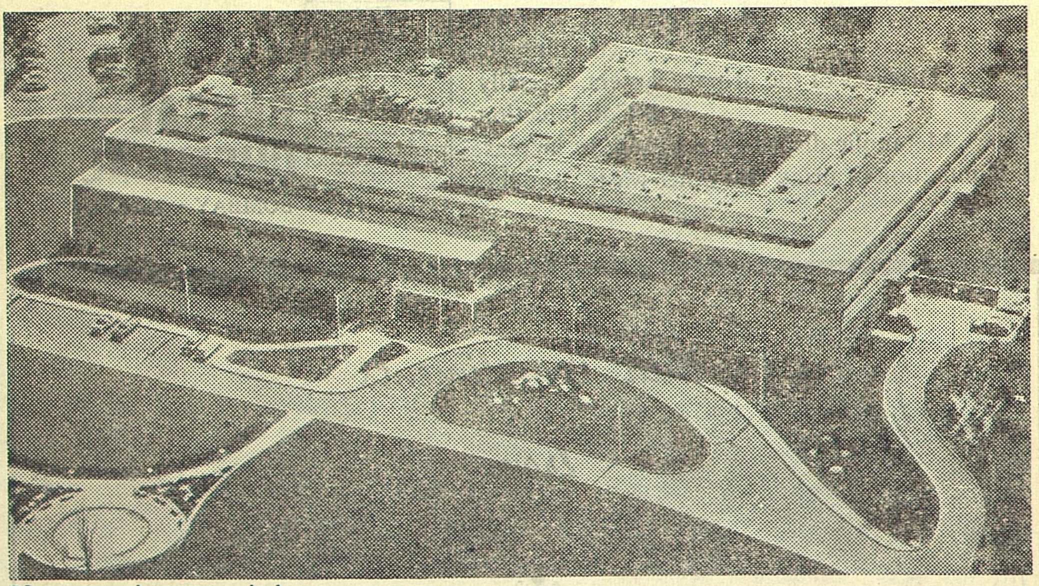

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PI-G-12

Madhu Meha — Diabetes Mellitus

Dr. V. Narayanaswami, H. P. I. M.,

Definition :

Madhu meha is one of the premehas (urinary diseases). Twenty varieties in premehas are described. In all varieties the common symptoms are passing large quantity of turbid urine and frequently as well. Among these twenty varieties, three (of them) contain sugar in the urine. They are Ikshu meha, where the urine is just like sugar-cane juice and Shitha meha where the urine is passed frequently with sugar in it and Madhu meha where the patient becomes weak and urine contains sugar. The former two do not come under the disease diabetes mellitus, even though the urine contains sugar, for, the other clinical symptoms are not found in these cases. They may be classified as glycosuria, and by adjustment of diet, the diseases can be cured. In the case of Madhu meha, besides presence of sugur in the urine, other constitutional symptoms are found and it may be equated to diabetes mellitus of the modern medicine.

Two varieties of madhu meha are described, one is due to heredity and the other is due to various indiscretion in the diet, lack of exercise, and occassionally due to mental stress. Among the diet too much of carbohydrates, fats and indulgence in newly harvested grains including pulses cause the disease.

It should be noted that in this disease metabolism of carbohydrates, proteins and fats are affected. It is said that serious upset of protein metabolism causes increase in blood sugar level. It is estimated that 58% of protein molecule is burnt as sugar. So also in the case of fat metabolism. In Ayurveda whatever diet increases the Kapha dosha, adipose tissue and the secretion of urine, cause madhu-meha.

There is a substance in the body called ojas. What exactly is this in modern physiology is not known. The description of ojas is, that it is the quintessence of metabolism. It is essential to the body for the maintenance of physical and mental health. It is reduced in prolonged undernourishment, by emotional causes like anger, fear, sorrow etc. When the ojas is substandered both physical and mental functions deteriorate.

In diabetes mellitus the ojas is seriously affected for the metabolism is defective, there is no proper dhatu parinama (conversion of food into various tissues) and so lack of enthusiasm in both physical and mental activity. It is said that there is discharge of ojas through the urine and therefore lack of stamina.

Signs and Symptoms :

As the diseace is of insidious onset and often detected accidentally only, the presence of following conditions even in prodromal stage can be noticed. There is profuse perspiration, bad odour, desire in the cold things, unaccountable weakness, desire to sit, lie down, go to sleep etc. This merely shows that the person is apathetic to any physical labour. One commentator describes graphically as follows. When a diabetic person is walking, he will desire to stand, if he stands he will desire to sit and then lie down and go to sleep. There is dryness of the mouth and throat, burning sensation of hands and feet and benumbed sensation of the extremities. The hair becomes soft and grows faster than usual and so also the nails. Hair and nails are considered as waste products. Therefore, in this disease there is greater waste products, greater formations of tarter in the teeth is also reported. There is a feeling of stickiness in the body due to the perspiration. These signs and symptoms depend on the severity of the case. In some cases there is pain in the bladder and urethra. Inflammation of the prepuce and difficulty in reverting it is one of the common symptoms. It fact some cases of diabetes are noticed by this symptom only. Pruritis and dermitites of the Genetalia are distressing at times. Excessive thirst may be there to pass the sugar from the blood as water is required in greater quantity.

Complications :

Coma (Moorcha) is a frequent termination of the disease. There will be hyperproea (air hunger). These symptoms are only in severe cases.

Boils, carbuncles and perforating ulcer of the foot may come due to infections. These have to be treated accordingly.

Kshaya or tuberculosis is another complication. When this supervenes the prognosis is usually bad. This is because of anyonya-virudho pakarama (opposite line of treatment between the diseases) and its complication. Diabetes requires limited diet whereas tuberculosis requires greater nourishing food. The former requires reduction of weight or at least maintenance of weight, whereas the latter requires increase of weight. Another complication that supervenes in diabetes of some years is gulma, peptic ulcer and gastritis. This is often due to starvation diet in diabetes. Therefore, the texts insist that too much of Karsana treatment, (weight reduction treatment) should not be done in cases of diabetes for the fear of complications such as Kshaya and gulma. In long standing cases of diabetes, arteriosclerosis, high blood pressure, cardiac complications and albuminuria occur.

Prognosis :

Diabetes does not directly kill a person. By careful diet and medication any number of years of useful life can be led. But exhaustion, lack of interest in physical and mental work should be endured. If one could avoid the complications

mentioned above one can live as long as possible. Diabetes is one of the maharogas, which means it is a life long disease. But by careful diet and proper treatment there may be a spell of sugar-free urine and normal health. When the person apparently feels well he gets the disease again. That is why the statement once a diabetic always a diabetic, has come to exist. In some persons diabetes is cured. The prognosis is always good in stout persons and is bad in emaciated persons. So also in persons whose appetite is lost and has anorexia.

Treatment :

Treatment differs from a stout person to a lean diabetic In the former case reduction of quantity of diet is good and in the latter one should be cautious in reducing the calories. Carbo-hydrate and the other energising food should be taken to a minimum.

Diet is more important than the medicine. As the disease is one which lasts for a number of years, as soon as the disease is known, proper adjustment in diet is necessary. As in this disease Kapha and medas (adipose tissue) are affected, vegitables and other diet which are bitter are good. Bitter gourd (Karavellam), cluster beans and leafy vegitables are good. Bitter food reduces Kapha and medas.

For drinking, water with teaspoonfuls of honey is good. So also water boiled with three myrobalans can be used, (Triphala paneeyam) water boiled with Kusha or darbha, (Desmostachia bipinnata) water boiled with Sara (Cuperssus semperviens Linn) or Khadira (Acacia catechu) can be used. When a diabetic has got thirst and has to drink a lot of water, these boiled water are good. It alleviates thirst, reduces the frequency of micturition and to an extent correct the fat metabolism. In boiling, large quantity of the drug should not be used, for those drugs are astringent, and the drinking water should not have any strong medicinal smell and taste. These should not be boiled as Kashaya, it should be prepared as paneeya. For this, twenty grams of the drug coarsely powdered and tied in a piece of cloth may be put in one litre of water and immersed for a time and cooled.

Green gram (Mudga) and Horse gram (Kulatha) can be used for soups. Among the pulses (Simbhee dhanya) green gram is the best and horse gram reduces the weight of the person. These grams supply enough of protein to the body.

Wheat, barley (yava) and short term rice (Sashtika) can be used, but these should be harvested at least a year earlier. Millets (Trina dhanya) like Ragi, Kambu and Corns also are food. Honey can be used whenever necessary. These grains are soaked in water and fried. Then powder is made out of these. These can be used as diet (Saktu or Porimavu).

Flesh of animals like Goat and Deer can be used after they are roasted over charcoal fire (Soola pakwa). Birds flesh can also be used. Aquatic animals, fish etc., should not be used.

A diabetic person should have moderate exercise. Long walks, gardening etc., should be undertaken. The books say that he should move with cattle. It means he should be relaxed and not get into tension. Muni Vrithi, that is just like a renounced person, he should behave both in mental poise and in physical discomfort. He should be free from covetousness and to hold to his own things fast.

Medical Treatment :

Medicines are many, but none of them are satisfactory as a cure to the disease. Most of them are good to maintain the general health and prevent complications that may arise. Bhasmas of various heavy minerals and metals (calcinated) as mica, tin, lead, iron etc., are used with varying success. Combinations of these metals with various vegetable drugs are used. The following remedies have been used with success.

1. Vasanthakusumakaram - 60 mg. two times a day with honey.
2. Tarakeswara Rasa (equal quantity of bhasmas of Abhraka, Kantha, Vanga and Naga) - 120 mg. two times a day.
3. Mahavangeswara Rasa 120 mg. - 2 - 3 times a day.
4. Gomutra silajathu. This is claimed as a good remedy. This has to be taken for a long time along with asana kashaya (Brideka montana). 500 mg. - 2 or 3 times a day.
5. Amalaki (Emmblica officinalis) fresh juice 15 ml. and fresh juice of nisa 15 ml. with honey one teaspoonful taken every day for a long period is good. If fresh drugs are not available the two drugs can be used for decoction and used with honey.
6. Gandhaka Bhasma (medically purified sulphur) 2 grams of this with 5 gms. of Jaggery is given once a day in the morning with a cup full of milk. Milk and rice are given as diet. The present writer has seen, that bad cases of diabetes passing 6 - 8 litres of urine with 6 to 7% of sugar improve from the distressing symptoms of polyureia, polydispsia and prostration.

Liv. 52
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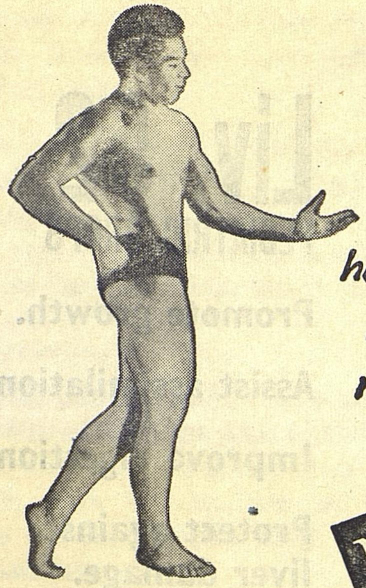

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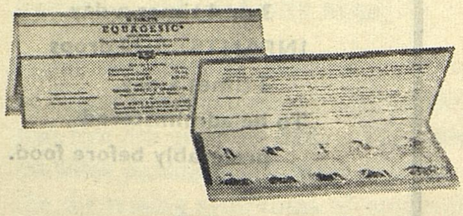

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Do's and Dont's in Surgical Emergencies

Dr. R. Sarat Chandra, M. S., F. R. C. S. (Eng.), F. R. C. S. (Edin.)

Professor of Surgery, Kilpauk Medical College &
Surgeon, Government Royapettah Hospital, Madras.

Abdominal Emergencies :

Almost always pain is the earliest symptom of an acute abdominal disease. Pain relieving drugs should never be administered unless a definite diagnosis is made and a decision taken whether to operate or not.

Purgatives should not be given. No acute abdominal condition has been known to be relieved by a purge. On the other hand, fatality can occur.

Even enemas could be dangerous. While they are useful in the diagnosis and treatment of intestinal obstruction they are harmful in inflammatory lesions like Acute Appendicitis.

Strangulated Hernia should not be reduced by taxis. Rupture of the intestine might occur.

The first aid for acute abdomen is to pass a Ryeles tube and aspirate the gastric contents, withhold feeds and repeat gastric aspiration at intervals. The fluid requirements are met by intravenous drip.

Regarding the diagnosis of acute abdomen never omit to inspect and palpate the hernial orifices. Palpation is essential. Small hernias may not be seen as they may be obscured by fat but they can always be felt.

Rectal examination should always be done. To give an example of its usefulness, intestinal obstruction due to growth in the Rectum can be spotted this way. Inflammation in a Pelvic appendix can be made out only by Rectal palpation.

Always examine the urine. Ketosis, (one of the causes of acute abdominal pain) can be spotted. Haematuria helps in the diagnosis of injury to the Kidney.

Stab wounds over the abdomen should always be explored after enlarging the wound. If the peritoneum is cut, the abdomen should be explored thereafter.

Urological Emergencies :

By and large inability to pass urine is the commonest emergency met with. If this is due to retention the bladder will be distended in contrast to anuria where the bladder will be empty.

Always try to find out the cause of retention. Sometimes retention may be a reflex, due to a painful condition in the anal region.

Do not catheterize in a casual manner. The catheter must be adequately sterilized and the area cleaned. Severe cystitis may follow if these precautions are not observed.

Head Injuries :

If the patient is unconscious he must be transported to the hospital in the almost prone position. The greatest danger to an unconscious patient is choking by the tongue falling back and by secretions accumulating in the pharynx. All head injuries require hospitalization and observation. Never give a sedative to a patient with head injury before hospitalization.

Chest Injuries :

These patients also require hospitalization. If there is an open wound in the chest it is closed with liberal dressing to prevent air being sucked into the pleura.

Limb Injuries :

First aid splinting relieves pain and alleviates shock. For bleeding wounds in the limb apply a dressing and a firm bandage over it. The local pressure dressing almost always stops the bleeding. Only in the very rare event of a bleeding persisting even after this, should a tourniquet be used. If a tourniquet is applied it must be tight enough. A tourniquet loosely applied worsens the bleeding. The person applying the tourniquet should accompany the patient and loosen it after half an hour.

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Plastic and Reconstructive Surgery

L. B. M. Joseph, M. B., M. S.,
Associate Professor of Surgery & Head of the Department of Surgery, Unit III.
Christian Medical College & Hospital, Vellore.

It is a curious fact that many lay people have the impression that Plastic Surgery means surgery which includes synthetic plastic products in the human body for the correction of deformities

It is because of this incorrect impression and to avoid false ideas that the term 'Reconstructive Surgery' is used more and more frequently to replace the term 'Plastic Surgery.' Plastic Surgery or Reconstructive Surgery means the use of surgical procedures which involve the transfer of tissues from one part of the human body to another in order to repair a deformity, to improve appearance or to restore function. It is uncommon to include synthetic materials in these operative procedures.

Plastic and Reconstructive surgical techniques are among the first surgical procedures described in detail by ancient man. Susruta, the greatest of ancient Indian Surgeons, who lived in the sixth or seventh century before Christ, described two plastic reconstructive methods in detail for the correction of an ear lobe deformity and the other for the reconstruction of a damaged nose. This latter method is still referred to in modern surgical literature as the Indian method of reconstructing the nose.

In the centuries which followed the golden age of Indian medicine, knowledge of plastic and transplantation procedures were transferred to Western civilization by the free interchange of thought and experience between Indian, Arab, Persian, Greek, Nestorian and Jewish scholars. Celsus, the Roman, who lived from 25 B. C. to 50 A. D., was the earliest Western European to describe plastic operations on the nose, lips and ears.

Tagliacozzi first introduced numerous plastic surgery procedures in his book 'De curtorum chirurgia per insistionem' in Venice in 1597. However, it is in this century, after the two great World Wars, that Plastic and Reconstructive Surgery has advanced greatly. Modern plastic surgeons, such as Sir Harold Gillies of Great Britain, Doctors Vilray P. Blair and Robert H. Ivy of the United States of America, and other continental surgeons, have advanced plastic surgery to its present position.

What is the scope of Modern Plastic Surgery and what of its Future? Plastic Surgery deals with the body in its entirety, striving to restore normal appearance as well as normal function The cosmetic or aesthetic result of a plastic

surgical procedure is of major importance. Correction of an exposed deformity often is of utmost psychologic significance to the patient and in some instances may even outweigh his need or desire for normal restoration of function. In other words, plastic and reconstructive surgery offer repair of birth deformities, deformities occuring as a result of accidents, scars on the face and contractures in various parts of the body caused by burns, facial disfigurement, facial paralysis and facial disorders due to diseases like leprosy. Reconstruction of the hand caused by injuries or leprosy also comes under the scope of Plastic and Reconstructive Surgery.

The future of Plastic and Reconstructive Surgery is very bright and exciting. Transplantation of organs from one human being to another is being performed successfully in certain situations. The time is not far off when the scope of this transplantation will be widely increased. Transplantation of lungs, of the heart, of kidneys, of the visceral organs will be as commonly done as transplantation of the cornea, of bones, of blood vessels is done today.

The day is not far off when a new human body can be made by the Plastic and Reconstructive Surgeon. But I am perfectly certain, creation of human life and of a soul within a human body will remain entirely in Divine Hands.

* * * * *

A psychiatrist was interviewing a patient for the first time.

" My problem is that I can't remember anything I just said," the patient complained.

" I am sure you can be helped with the proper treatment," the psychiatrist replied, jotting down a few notes. " Now when did you first observe this," he asked.

" Noticed what ? " the patient asked blankly.

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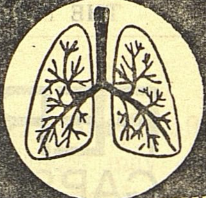

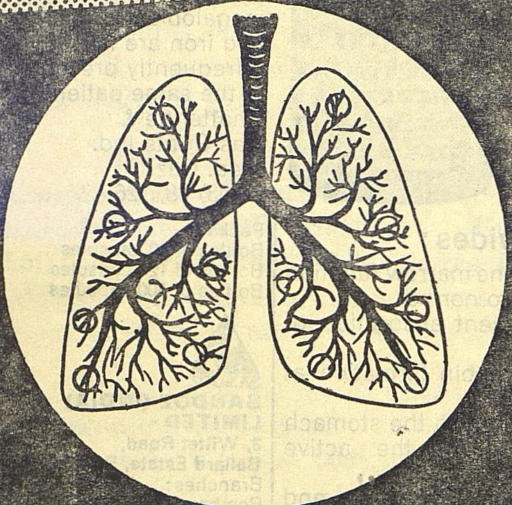

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Recent Trends in the Surgery of Peptic Ulcer

Dr. Kathirvelu, B. Sc., M. B. B. S., Assistant Surgeon.

Dr. Thiruthavadoss, M. S., Assistant Professor of Surgery.

Dr. N. Rangabashyam, M. B. B. S., F. R. C. S., Edin., F. I. C. S.,
Hony. Surgeon and Lecturer in Surgery
T. M. C. Hospital and R. M. Hospital &
Tanjore Medical College, Tanjore.

Knowledge of peptic ulcer apparently dates to antiquity. In 1586 Marcelless of Mantan described the postmortem appearances of peptic ulcer. Mathew Baillie described the gross pathalogy and symptoms of gastric ulceration in 1793. Duodenal ulcer was described in the early part of 19th Century by Benjamin Troffers. It was in 1822 that William Beaumont began the historic investigations on a gastric fistula subject, Alexis St., Martin, which resulted in the discovery of peptic ulcer.

Today no area of medicine has been subjected to more intensive or more productive investigative effort. The necessity for special interest in this subject is due to the magnitude of the problem it possesses About 143 per lakh of people suffer from peptic ulcer in Madras State alone ; though in some parts of India like Punjab, the incidence is low, only 9 per lakh suffer from peptic ulcer. In the United States of America, it is estimated that nearly 5 million people are annually affected by the disease and the total economic loss per year is approximately 500 million dollars. No wonder, peptic ulcer remains not only a medical problem, but also a national economic problem.

Incidence :

Incidence and behaviour show variations with time. While peptic ulcer was a rare disease in the 19th century, it is becoming more and more common with progress of civilization. In the last century, the incidence was very low. Gastric ulcer was more common, females predominated males. But now the duodenal ulcers are outnumbering gastric ulcers at the ratio of 8: 1, more men are affected than women, more young people suffer from this disease.

Physiological aspects :

The optimal use of surgery in achieving lasting control of peptic ulcer involves the objective evaluation and design of the operative procedure to correct the pathophysiological mechanisms present. Hence a study of the gastric physiology is of utmost importance to a surgeon who deals with the disease of the stomach.

There are two phases of gastric secretion. (1) Digestive phase (2) Interdigestive phase.

Digestive phase : This is divided into (a) Nervous phase (b) Gastric phase (c) Intestinal phase.

Nervous phase : Psychic, visual and other impulses stimulate the vagus and causes secretion.

Gastric Phase : The hormone gastrin is released from the antral mucosa and this stimulates the acid formation. Gastric antrum is stimulated to release gastrin by (i) Mechanical distension (ii) Alkalinisation of the antrum (iii) chemical substances like alcohol, etc. Intestinal phase : As gastric contents enter the duodenum and upper Jejunum, there is further release of gastrin like hormone caused by distension of the duodenum.

These three classic phases of gastric secretion till now considered as separate and distinct phases, are inter dependant on each other as pointed out by Uunas.

Intestinal inhibitory role on acid secretion :

(1) Acid in the first part of duodenum inhibits gastric motility and emptying.

(2) Acid in the duodenum inhibits gastric secretion when the PH falls below 2.5.

(3) Food bolus of high osmolarity like fat, inhibits gastric motility and secretion through a potent hormonal factor to which the name " enterogastrone " is applied.

These prove that duodenum plays an active part in controlling gastric acidity and so the bypass operations abolish this inhibitory role of duodenum thereby causing increased acid secretion resulting in Anastamotic Ulcers.

Interdisgestive phase :

Stomach secretes intermittently in the absence of all observable stimuli, the mechanism of which is not clear.

Etiopathology and pathogenesis :

There is no single factor responsible for the causation of peptic ulcer. To fix up a single cause is as possible to fix up a single cause for all types of skin ulcers.

There are two basic factors in the causation of ulcers namely, (1) hyper acidity, the seed and (2) lowered mucosal resistance, the soil. While lowered mucosal resistance is the main cause for gastric ulcers, hyperacidity is the basic factor for duodenal ulcers. Peptic ulcer can be defined as a state of autodisgestion of the gastro duodenal mucosa due to acid pepsin occuring either as a result of hyperacidity or lowered mucosal resistance or both.

There are various factors which cause hyperacidity of which the stress factor takes the pride of place. Similarly a number of causes operate for lowering the mucosal resistance of which protein deficiency in our people plays an important role. Other factors like drugs — Nicotine, Reserpine, Caffeine, INH, PAS, infection, trauma, vitamin deficiency, heredity ' O ' group have all been blamed for predisposing ulceration

Much attention has been paid recently to the endocrine causes of peptic ulcer.

Pancreas :

Zollinger Ellison first published the syndrome in 1955 that single or multiple tumours of the non Beta cells of the islets of Langerhan's associated with marked gastric hypersecretion, intractable reccurent ulceration and diarrhoea. It is now known that multiple endocrine glands are involved in 20 to 30%. Gregory et al have extracted a hormone akin to gastrin, which they call it as 'gastrin like substance' which is 30 times more potent than gastrin itself.

Insulin secreting tumours of pancreas might be expected to lead to peptic ulcer by causing hypoglycaemia but the incidence is rare.

Pituitary :

Hypophysectomy causes lesser acidity and reduction in the parietal cell mass. Removal in animals cause peptic ulceration due to metriturial changes. Cushing (1932) describes the relationship between intracranial disease or injury, to the development of acute ulcers with haemorrhage or preforation.

Adrenals :

Relationship between adrenals and peptic ulcer still remains controvensial. ACTH and steroids in adequate doses can stimulate gastric secretion and in ulcer patients can induce severe bleeding.

Thyroid :

The incidence of peptic ulcer in association with hyperthyroidism is lower than in the population at large. Thyroxine actually depresses the gastric acidity.

Parathyroid :

Peptic ulceration and ulcer like symptoms are common in patients with hyperparathyroidism. Basal secretion is increased in 50% hyperparathyroidism. Probably 1 to 2% of all patients of duodenal ulcer suffer from hyperparathyroidism.

Sex Harmones :

It is interesting to note that peptic ulcer is very rare in pregnant women. A peptic ulcer patient who becomes pregnant, finds all her ulcer symptoms disappear during pregnancy which may probably be due to oestrogen.

Role of liver in the causation of peptic ulcer :

Of recent, the role of hepatic cirrhosis and portal hypertension in the causation of peptic ulcer is getting more and more attention. 15% of cases of ulcer are due primarily to liver cirrhosis, which may be due to protein deficiency or overindulgence in alcohol. The number of cases of duodenal ulceration after portocaval shunts is steadily increasing. This is explained by the fact, that some factor possibly in the nature of histamine is bypassed without

being detoxicated by the liver, hence acting directly on the stomach producing hypersecretion and thereby peptic ulcer. The same is true for the cirrhosis liver with extensive natural shunts.

But it is difficult to explain the increased incidence of peptic ulcer in mild degree cirrhotic patients with no or minimal shunts. Possibly some common etiologocal factor is responsible which produces both cirrhosis on the one hand and peptic ulcer on the other. This factor may very well be malnutrition and protein deficiency since in our patients, most of them are undernourished. This may explain the thousands of South Indians belonging to poor class, suffering from peptic ulcer, while in Punjab, where the dieticians have claimed that the people live on a finest balanced diet in the world, peptic ulcer is rare.

Investigations :

Along with the usual investigations like Barium meal series, Gastroscopy, blood and stool studies etc, studies on gastric function play an important role in the routine investigation of a peptic ulcer patient. The fractional test meal has been almost completely superseded. At present, the following are the most valuable tests.

(1) Kay's augmented Histamine test :

This gives an index of the total parietal cell mass. From a fasting stomach, the basal secretion is collected for one hour. Mepyramine malleate 100 mgm is given intramuscularly to antagonise the side effects of histamine. 20 minutes later histamine (0.04 mg/kg wt.) is given subcutaneously and the maximal secretion collected during the subsequent hour and the acidity is estimated.

(2) Medical Vagotomy : (Gilleprie and Kay)

Repeating the same test after first blocking the nerve with intramuscular hexmethominum 50 mgm. and atropine 0.325 mgm. will demonstrate the fall in acid production, which can be anticipated if surgical vagotomy were to be performed.

(3) Basal Night secretion : (Drafstedt)

This is a method of assessing the interdigestive or resting secretion of the stomach. After sedating the patient with Intramuscular phenobarbitone, continuous or intermittent low pressure gastric suction is carried out through an indewlling gastric tube. Normally about 400 ccs is aspirated for 12 hour period. The free acidity is then estimated from the basal secretion wnich is an index of the vagal activity.

(4) Insulin test meal : (Hollander's test)

Since acid production following hypoglycaemia is attributed to direct vagal action on the oxyntic cell mass, insulin given to a patient who has had a vagotomy performed should result in no increase in acid secretion.

Thus Kay's test attempts to assess the size of the oxyntic cell mass, Drafstedt's test, the extent of vagal secretion at night and Hollander's test the integrity of vagus.

(5) Pepsin estimation :

Estimation of pepsinogen in urine which varies with the levels of pepsin and Hcl in urine can be estimated. Not much of use in the routine investigation.

Management of Peptic Ulcer :

Theodor Billroth, a Berlin graduate and Professor of Surgery at Vienna in 1881 performed the first successful major operation on the stomach, when in a case of cancer stomach, he removed the pyloric portion and re-established continuity by end to end suture of stomach and duodenum. In the same year Wolfler, Billroth's assistant who later occupied the chair at Prague did the first Gastrojejunostomy for a case of cancer stomach.

But it took several years for such procedure to be applied for peptic ulcer. By the turn of the century, it was fully established and during the succeeding decades few operations enjoyed much wide usage and high repute. Then came the era of pyloroplasty, wedge resection, sleeve resection, Balfour's Cautary operation etc. The modern development of gastrectomy for ulcers came at the hands of Holfmeister and Polya and by 1920—30 it was in regular use in many continental clinics. Vagotomy though introduced as long ago as 1911, only in 1943 it was popularised by Drafstedt. 1950—60 saw vagotomy dying a natural death while gastrectomy again was becoming popular. In 1962, Wangesteen introduced the technique for freezing the stomach, by means of intragastric balloon in the treatment of Duodenal ulcers. But somehow it is not very popular.

Today the fashion of surgery for duodenal ulcers is vagotomy combined with either a drainage procedure such as pyloroplasty or Gastrojejunostomy or a minimal gastrectomy such as Antratomy or hemigastrectomy while for gastric ulcers Billroth I type of partial gastrectomy is the operation of choice.

It is now undisputed, that except in the case of complications, no operation should be considered, until the patient has had an adequate trial of medical treatment, indeed the failure of such treatment may be regarded as the only indication for operation. For all gastric ulcers which do not show evidence of healing within 3 to 6 months, surgery should be considered since the possibility of a malignant ulcer cannot be ruled out. For duodenal ulcers an adequate trial of medical treatment is given. All complications are absolute indications for surgery while in patients with uncomplicated duodenal ulcers, the problem is more economic than a medical one.

Gastric freezing :

Wangensteen and his group claim that they have now treated over 1000 patients without mortality or serious complication, and that 50% of the patients with duodenal ulcer followed up over one year had since remained symptomless.

The action of freezing is as follows :

(a) Direct damage to the parietal and chief cells.

(b) Inhibition of gastrin release by damage to the antrum.

(c) Vagal inhibition through damage to the intramural nerve plexuses leading to inhibition of the secretion of acid and pepsin.

Using a hypothermia machine with a flow rate of 3 litres/min. under local anaesthesia, the tube and the folded balloon are passed into the stomach and the balloon filled up to 150 ccs. Duration of freeze is 50 minutes after the temperature of the cold fluid leaving the machine has reached -20°c and that returning from the balloon -12°c as recorded at the machine. Effects are unpredictable Complications if occur will be severe.

Vagotomy :

Vagotomy itself is not the operation of choice unless combined with a drainage procedure or minimal gastrectomy. In some cases it leads to complications such as diarrahoea, oesophagitis and dumping. Diarrhoea occurs following total vagectomy in 38% of cases and to avoid such complications Burge end Fry preserve the hepatic and coeliac branches of the vagus — 'Selective vagotomy' by which they have shown the same reduction in acid without diarrhoea and also without any diminution of Bilary function. Recurrent ulcer or persistently increased acidity is due to incomplete vagectomy. This incomplete vagectomy can be prevented by using "Burge's test" on the operation table itself i.e., stimulating the proximal cut end of the vagus and estimating the intragastric pressure If the vagal section had been complete, there will be no increase in the intragastric pressure. Postoperatively also it can be tested by "Hollander's test".

Drainage operation with vagectomy :

The drainage procedure alone should not be done without vagotomy unless it is clearly shown that the acid secretion after Maximal histamine test and Basal night secretion is very low or when vagotomy is contraindicated as in huge dilated stomachs. The drainage procedure in use are (1) Pyloroplasty and 2) Gastrojejunostomy.

Pyloroplasty :

In 1956 Weinberg proposed pyloroplasty as a drainage procedure in conjunction with vagotomy. The advantages of this procedure are (i) it does not disturb the antral gastric mechanism {ii) recurrance rate is 5% only (iii) also a theoretical advantage that gastric contents are routed through the duodenum, thus allowing for optimal stimulation of the pancreatic secretion Any type of pyloroplasty could be done either Michuticy or Finney's; both are satisfactory.

Gastrojejunostomy :

In the classical vertical, posterior retrocolic gastrojejunostomy the stoma is situated in the most dependant part of the stomach. Unless this is combined with vagectomy, the recurrance rates is 30—40% in India This is a simple procedure, mortality below 1%. Norman C Tanner prefers a juxtapyloric anterior gastrojejunostomy since a stoma in the antrum prevents antral distension which stimulates secretion of gastric juice from the body of the stomach.

MINIMAL GASTRECTOMY WITH VEGECTOMY :

Vagotomy and Antrectomy :

The nervous phase of gastric secretion and basal hypersecretion characteristic of duodenal ulcer could be abolished by vagotomy, while its powerful hormonal response to food intake could be eliminated by Antrectomy. This is more physiological inhibiting both phases of gastric secretion thereby causing a profound reduction in acid secretion. The disadvantages are (1) mortality 2-5% (ii) high incidence of dumping syndrome.

Vagotomy and hemigastrectomy :

There is nothing to choose between antrectomy and hemigastrectomy. In hemigastrectomy more of the stomach is removed than in antrectomy.

Orr (1962) remarks that not all patients with duodenal ulcer are hypersecretors of gastric juice and so all do not need a massive attack on the secretory mechanism. The basal secretion gives an estimate of the vagal activity and the Augmented Histamine test of the hormonal part (total parietal cell mass). He recommends a useful formula for planning operation according to their acid secretion. Augmented Histamine is done – (A) patient is then put on a 12 hour fast, stomach emptied, Hexamethonium bromide 50 mgm and atropine 0·325 mgm i/m is given (Medical vagotomy). Then again a Kay's augmented test is performed. (B) The reduction is calculated as follows :

$$\text{Reduction } \% = \frac{A - B}{A} \times 100$$

Over 35% — vagotomy with drainage procedure
below 35% — vagotomy with Antrectomy or hemigastrectomy.

Partial gastrectomy :

Partial gastrectomy of the type of Polya with Hofmeister's value of peptic ulcers are becoming less and less popular since the mortality and morbidity is very high compared to other procedures and specially not suited to our type of patients. Now partial gastrectomy is mainly indicated in recurrent ulcers.

Radiation :

Radiation as a treatment of peptic ulcer is now almost completely given up since the recurrence rate was 48%. About 2000 r is administered in 10 sittings to the area of fundus and body of the stomach outlined flouroscopically. The aim is to reduce the gastric acidity by destroying the parietal cells.

Treatment of Gastric ulcers :

Choice of treatment is partial gastrectomy with gastroduodenal anastamosis of the Billroth I type. If the ulcer is high in the body of the stomach it may be left alone, and Polya type of gastrectomy is done below the ulcer level. When there is uncertainity whether an ulcer is malignant or not during laparotomy Tanner, prefers to consider it as a simple ulcer and treat it accordingly instead of doing radical procedure. If the histopathology shows malignancy, a second operation can always be done and majority of his twice operated patients have lived up for more than five years.

Peptic ulcer in South India :

In the world map of peptic ulcer, South India has been specially noted. About 143 per lakh of people suffer from this disease, the ratio between duodenal ulcer and gastric ulcer being 30 : 1, while in Ceylon, gastric ulcers predominate. Though peptic ulcer is said to be a disease of civilization, occuring in nerve strung people, yet it is commonly seen in the poor villagers of India.

Somerville of Neyyor to whom should go the credit for putting South India in the world map of peptic ulcer, provided evidence to suggest that our peptic ulcers are due mainly to nutritional deficiency. Lack of proteins in the diet of poor class patients and the alarmingly increasing incidence of peptic ulcer among them, leads one to think that lowering of the mucosal resistance due probably to protein deficiency might be the etiological factor in majority of our patients. Perhaps a more detailed study in this line may help us to have a more conservative line of surgery for our patients.

Conclusion :

Peptic ulcers are due to variable etiological factors and with progress of civilization the incidence may also increase. Etiology being variant, treatment should be given as per necessity of each individual while a lot is done towards acid factor, very little is being done towards increasing the mucosal resistance factor In South Indian patients, where lowered mucosal resistance plays a significant part in the causation of ulcer perhaps a more conservative line of surgery such as vagotomy with a drainage procedure such as pyloroplasty or Tanner's Juxtapyloric gastrojejunostomy may be preferable to more radical procedure such as antrectomy, hemigastrectomy or partial gastrectomy.

The treatment of complications of the peptic ulcer is not touched upon since it is a separate subject by itself

It is high time something is done for the prevention of this alarmingly increasing incidence of peptic ulcer in our poor class patients which is not a mere medical problem but really a national economic problem.

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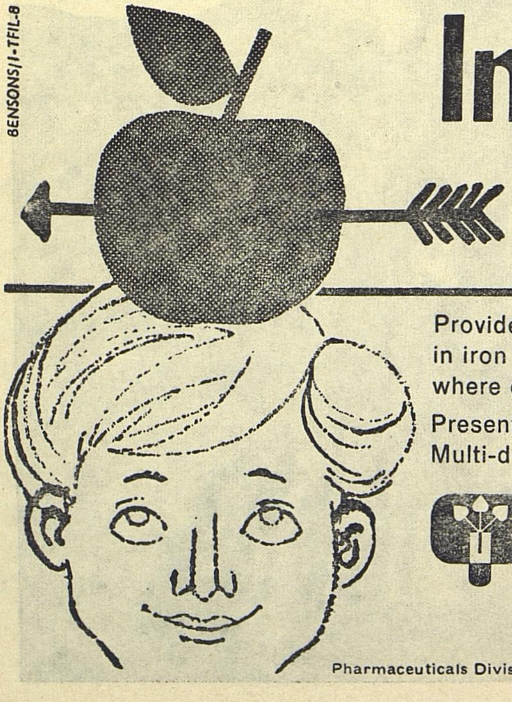

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Health Check-up in the Context of Present Day Medical Care

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In a century that has witnessed phenomenal progress in the control of many diseases, the natural sequal has been the development of those areas of knowledge that help in the prevention of many disease states. Though advance in the basic and applied sciences have contributed to the pool of knowledge concerning many diseases, the practical application of these to individuals or larger population groups remain, in most instances, a potential force rather than an accepted one. It is only an intensive study of the problem — both in the laboratory and in the field — that will help in the assessment of the health check-up as a preventive tools in the war against disease.

Medical men, the general practitioners more frequently, are often called upon to perform a general examination in an effort to diagnose clinically dormant disease. The other effort is to conduct a health check-up programme during a mela or an exhibition. Though the thoughts behind the latter and the efforts put into it are most laudable, it has been the experience of most that it is like yet another outpatient department of a hospital. One is not surprised at seeing people standing with bottles at such centres (which quite often charge a small fee) in the hope of getting a cure for their ills.

The concept of the health check-up should include only the study of apparently healthy normal individuals free from any symptoms that would cause them to go to a doctor. Such an approach is found in very few circumstances viz. children, antenatal period, life insurance and in the case of executives of some progressive firms. The limitations in the above, particularly life insurance work, is common knowledge and requires little further elaboration.

In the case of children the periodical health examination is a universally accepted procedure and the advantages obtained need no proof. It is indeed a pity that the concept of a well-baby clinic is still a theoretical objective and not a practical accomplishment in many centres. A well-baby clinic (which is not beyond the competence of any average general practitioner) will study the growth of the infant viz. determination of height, weight, physical and mental development and nutritional status, detect congenital abnormalities and institute immunization schedules. No more equipment than a weighing machine, a height scale and a measuring tape (not

unknown components in any dispensary) are necessary for this. Any defects noticed can get the benefit of corrective measures applied early so that the child can grow up as a normal one should.

The other area where results of a periodic health check-up are rewarding is in the field of ante-natal care. This is so common place, few medical men entrusted with the care of pregnant women do not practise it assiduously, and further elaboration in this field is superfluous.

It is in the grown-up adult that the problems of a health check-up and the consequent benefit to the individual appear more potential than real. When early diagnosis and the results of prompt therapy are compared in different conditions as pulmonary tuberculosis, lung cancer, diabetes mellitus, cardiac disease, cancer of cervix etc., apparent contradictions arise. Notwithstanding the foregoing, much can be achieved in many areas of human pathology. The purpose of this presentation is mainly to highlight the advantages gained by the health check-up in this group of the population and the many lacunae that exist in our knowledge.

A routine (sometimes casual) examination may fail to reveal anything but gross disease, with the possible exception of diabetes mellitus. To submit every patient to an exhaustive work-up is not a practicable one. What the health check-up can reveal is the risk factors a particular individual is exposed to. Based on this a selective application of investigative procedures can be expected to be helpful.

An older person, used to heavy smoking can be subjected to a periodical radiological examination to reveal any suspicious shadows suggestive of lung cancer. Though the results of detecting the 'early case' and the institution of prompt therapy are not very rewarding, in the absence of any more reliable early index of the presence of this disease, one cannot overlook the advantages to the few who will stand to gain by this approach.

Pulmonary tuberculosis constitutes a major health problem in our country. The value of a chest X'ray in the detection of cases in unquestioned. The place of mass X'ray campaign in the detection drive still is very insecure in our plans to eradicate this disease. Unless top priority is given to this, the control, let alone eradication, of tuberculosis will have to remain in the realm of myth.

The best that can be done by the general practitioner is to study all those who are exposed to the risk of pulmonary tuberculosis by a radiological examination. Thus if a case of pulmonary tuberculosis is detected in a family all contacts should be subjected to an X-ray examination and possibly a tuberculin test.

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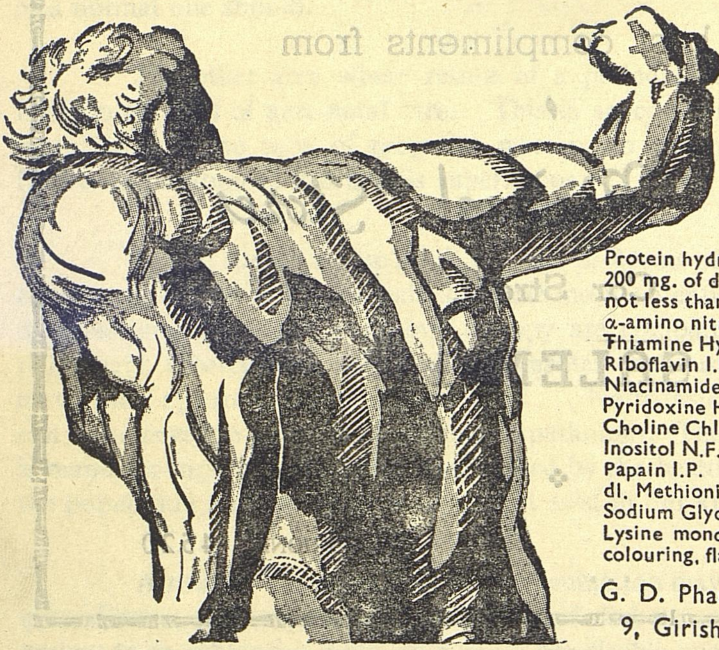

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A routine examination of the urine, particularly in those coming from a family with one or more siblings with diabetes mellitus is the only reliable way of detecting early disease. Prompt application of dietetic correction may help in postponing the date for institution of more specific anti-diabetic therapy. The value of the obstetric history of overweight babies in the pre-diabetic mother does not require to be stressed.

Unlike lung cancer, the mortality rate in cancer of the uterine cervix has shown a steady decline. This can be expected to fall still more if the application of gynological tests for the detection of this disease is applied to all mature women, probably every 2 to 3 years. As a screening procedure the 'Pap' smear (a vaginal smear stained by the Papanicolaou method) has been proved to be of immense value in the detection of cellular changes that require further confirmation.

It is with regard to the detection of latent coronary disease that much controversy seems to rage. Many risk factors have been enumerated and few evaluated. The only seemingly reliable objective evidence for 'latent' coronary disease seems to be the double Masters' two-step electro-cardiographic test. As a routine procedure it has found only research applications. In our present set-up it cannot find routine application, except possibly (and that too at special centres) in those individuals who appear to be at special risk to the development of coronary artery disease. A family history of coronary artery disease, sedentary occupation, obesity, high blood pressure, smoking, diabetes mellitus and, to be up with the current times and not to overlook a biochemical 'risk factor', a higher than average blood cholesterol, may be considered as risk factors.

Conclusion:

Some ideas of the value and limitations of a health check-up in the detection of silent disease have been outlined. A sense of proportion about the practical application of the many current screening procedures is an essential pre-requisite. One realizes that no definite procedure can be uniformly applied to all individuals in any population. Despite the many limitations the regular periodic check-up of individuals at special risk to disease states has come to occupy a significant place in human welfare.

Basthi Chikitsa

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Basthi Chikithsa can be so defined as a process of giving medicine through the anal canal by a definite method in Ayurveda. The large intestine is considered to be a very important organ, where the important Dosha named Vata is produced. Doshas are considered to be very important substances responsible both for the normal maintenance of health as well as in producing the disease. Out of these three doshas, vayu is considered to be very important as it controls the movements of the other two Doshas. Basthi treatment which acts directly on the seat of production of the Vayu is therefore stated to be the very important treatment in Ayurveda out of all other methods of treatments. It is therefore stated ;

शाखागताः कोष्ठगताश्च रोगाः मर्मोर्ध्वसर्वावयवाङ्गजाश्च ।
ये सन्ति तेषां न तु कश्चिदन्यः वायोः परं जन्मनि हेतुरस्ति ॥ ८५
विट्श्लेष्मपित्तादिमलाशयानां विक्षेपसंहारकरः स यस्मात् ।
तस्यातिवृद्धस्य शमाय नान्यत् बस्तेर्विना भेषजमास्ति किञ्चित् ॥
तस्माच्चिकित्सार्ध इति प्रदिष्टः कृत्स्ना चिकित्साऽपि च बस्तिरेकैः ॥ ८६

अष्टांहृदय सू. 16–85–86

The method of introducing the medicine through the anal route is done in most of the systems of medicine, according to their own ways. However, in Ayurveda, there is a definite procedure based on the basic principles. In this process, the minimum ingredients of the preparation to be introduced, the amount, the time, as well as the pre and post treatments required to be given are mentioned.

There are many varieties of Basties depending on the amount, the quality of the substances, the action expected and the seat of introduction.

Basties, like Mathra Basti, do not require any special preparation and they can be given at any time. Such Basties are intended for removing the stools from the Bowels.

The Minimum requirements of a Niruha Basthi are :

(1) Saindavam
(2) Madhu
(3) Oil or Ghee
(4) Kalka
(5) Decoction

The ratic of these substances may differ according to the predominance of the doshas i. e., in Vatha Pradhana disease the amount of sneha will be more than in the Kapa Pradhana disease. This Niruha Basti is not to be given alone continuously. Usually one pure sneha Basthi is required to be given before, after and in-between Niruha Basties. Continuous use of Niruha Basthi without Anuwasana Basthi is considered to be harmful.

स्नेहबस्तिं निरूहं वा नैकमेवाति शीलयेत् ।
उत्क्लेशाग्निवधौ स्नेहात् निरूहान्मरुतो भयम् ॥ अष्टां. सू. 16–75

Similarly Anuvasana Basthi is also not to be given continuously for many days and Niruha Basties are required to be given in between Anuvasana Basties.

It will therefore be seen that there is some definite relationship between the Niruha and Anuvasana Basthi and the proper use of both the types of Basties together is essential for the cure of the disease. This is a very important observation in Ayurveda and the Yoga Basti, Kala Basti and Karma Basties are based on this principle.

The most important property of Vayu is Rukshathwa and hence in each Basthi – whether Niruha or Anuvasana – Sneha is considered to be essential.

The minimum quantity of Sneha in Niruha Basthi, is 1/8 of the total amount of the Basthi. i. e., 12 tolas at a time. The amount of Sneha in Anuvasana Basthi is $\frac{1}{4}$ of the total Basthi i. e. about 24 tolas (280 Ml).

Madur, Amla and Lavana are the three Rasas which are responsible for the samana of Vayu. It is however seen that Saindava anabishyandhi Lavana Dravya, and Madhu anabishyandhi Madhura Dravya are considered as essential in each Niruha Basthi. It seems that Abishyanthi Dravyas which create obstruction in the passages are not used in Basthi and hence Amla Rasa as well as other Madhura Dravyas have not been utilised regularly, except in some cases.

The necessity of Kalka is for keeping the active principles of the medicines in direct contact with the mucus membrane of the vatha sthana (lower part of the intestines). It is observed that during the process of Niruha Basti, the patient requires about half an hour for the full excretion of the Doshas.

Though the excretion starts immediately, say after two minutes, the process is not complete till the whole amount of Basti Dravya along with the Doshas are completely excreted. The particles of the kalka may be remaining inside for a longer time and hence the patient may be requiring more time for excretion.

It is observed that the patient excrete the whole amount within 5/10 minutes if the decoction alone is given. The use of the kalka Dravya in a Niruha Basthi appears to be for keeping of the Basthi Dravya in contact with the Vatha Sthana for some time to have full action.

The decoction is required for making the preparation suitable to enter in the Vatha Sthanam and for mixing other ingredients properly.

The cause for giving two types of Basthi simultaneously, such as Niruha and Anuvasana, seems to be in the sampraрthi of Vata vyadhi. In Vatha vyadhi the samprapthi is of two types.

(1) Vatha prakopa due to obstruction (2) also due to Dhathukshaya. The treatment of removing the obstruction is contrary to the treatment of Dathukshaya. Rukshathva is considered to be the most important property of vayu and this property is increased when obstruction is removed. It therefore seems that Niruha Basthis is meant mainly for removing the Srothorodha and Anuvasana Basthi for removing the Rukshathva and the vatha prakopa caused by the Nirutha Basthi itself.

It is therefore proper to give Anuvasana and Niruha Basties simultaneously for the proper treatment of any Vata-Vyadhi. It is seen that most of the Vatha vyadhis are primarily due to Srothorodha and Dathukshaya is more often the effect. Hence in cases of Vatha Vyadhi, after a few days, both the symptoms of Srothorodha and Dathukshaya are seen. To remove this vyshamya, the treatment is also vishama The samprapthi of Vatha Vyadhi as well as its symptoms are vishama as given below.

आत्मरूपं तु यत् व्यक्तं अपायो लघुना पुनः । च. चि. 24-96

We will now consider the method of removing the srothorodha from the body. It is observed by Ayurveda that before removing the material obstructing the various passages of the body, it is necessary to make it loose, so that during the process of removal of this material, there may not be any damage to the tissues which form the passages i. e.

सर्वदेहप्रविसृतान् सामान् दोषान् न निर्हरेत् ।
लीनान् धातुषु अनुत्क्लिष्टान् फलादामाद्रसानिव ।
आश्रयस्य हि नाशाय ते स्युः दुर्निर्हरत्वतः ॥ अष्टां सू. 13-28

This principle is applied in all the Sodhan Karmas in Ayurveda. Hence before the sodhan karma, there is necessity of the Poorva Karma i e. Snehan,

Swedhan and Uthklesan Ahara. This principle is applied in the process of Basthi Karma also.

स्नेहक्लिन्नाः कोष्ठगा धातुगा वा स्रोतो लीनाः ये च शाखास्थिसंस्थाः ।
दोषाः स्वेदैः ते द्रवीकृत्य कोष्ठं नीताः सम्यक् शुद्धिभिर्निर्हियन्ते ।
मलो हि देहादुत्क्लेश्य ह्रियते नामसो यथा ।
स्नेहस्वेदैस्तथोत्क्लेश्य ह्रियते शोधनैर्मलः ॥
स्नेहस्वेदावनभ्यस्य कुर्यात् संशोधनं तु यः ।
दारुशुष्कमिवानामे शरीरं तस्य दीर्यते ॥ वा. सू. 17–29

During the process of "Karma Basthi" the patient is prepared by giving Vamana and Virechana Karma. After the Virechana, Snehan – Swedhan both internal and external is to be done again for a period of 15 days. The Karma Basthi starts with the first 2 or 3 Anuvasana Basthi. These Sneha Basthies are intended for the Snehana and Uthklesana of the Doshas.

According to some scholars, the Niruha Basties to be given in the Karma Basthi should be of three varieties. (1) Utkleshan Basthi (2) Sodhana Basthi (3) Shaman Basthi. It is however not clear as to whether the first three Basthies should be of the same variety i. e. Utklesana or Sodhana or Samana are to be given alternately as below.

School I	School II
	(1) Uthklesana
	(2) Sodhana
	(3) Samana
	(4) Uthklesana
	(5) Sodhana
First four Uthklesana	(6) Samana
	(7) Uthklesana
Next four Sodhana	(8) Sodhana
	(9) Samana
Last four Samana	(10) Uthklesana
	(11) Sodhana
	(12) Samana

It is also not clear as to which formula should be used for Uthkleshan, Sodhana and Samana. In practice, some vaidyas use the following preparations for Uthklesan, Sodhan and Samana.

Uthklesan	**Sodhan**	**Samana**
Eranda Mooladi	Koshatakyadhi	Punarnavadhi
एरण्डमूलादि	कोशातक्यादि	पुनर्नवादि

We therefore, studied the formulae to understand as to why these preparations are used for the various karmas. It was observed that most of the ingredients were katu and thiktha in all the three formulas. We, therefore, could not find out any logical explanation.

It was however observed that during the process of giving Uthklesan Basthi, Accha-kapha was not seen at the end. However during the process of Sodhana and Saman Basties, Accha kapha was seen at the end in most of the cases. There is also a general observation that during the process of Sodhan Basthi, there was more laghuthwa in the body than after the Samana Basthi.

It is expected that the action of the various drugs used in the preparation of Basthi may be acting mainly by their Rasa and Veerya. There seems to be no possibility of any action due to Vipaka. In Charka and Vagbata, the selection of the Basthi Dravya is based on the Rasa of the Dravya.

वातघ्नौषधनिः क्वाथः त्रिवृतासैन्धवैर्युतः ।
बस्तिरेकोऽनिले स्निग्धः स्वाद्वम्लोष्णो रसान्वितः ॥
न्यग्रोधादिगणक्वाथः पद्मकादिसितायुतौ ।
पित्ते स्वादुहिमौ साज्य क्षीरे क्षुरसमाक्षिकौ ॥
आरग्वधादिनिः क्वाथः वत्सकादियुतास्त्रयः ।
रूक्षाः स क्षौद्गोमूत्राः तीक्ष्णोष्णकटुकाः कफे ॥ वा. सू. 19

There is no Basthi or any other panchakaram during the presence of Ama. Ama Bastha is a contra indication for any Basthi It therefore appears that there is no action of vipaka in Basthi. It is however said that in addition to the action of Rasa and Veerya, there is action, due to Prabava in Basthi

It is however found that Basthis such as Brahman Basthi, Rasayan Basthi and Yapan Basthi have been mentioned in the books. This suggests that there is some Pachana Karma and that there is presence of Agni in the Pakvasaya. It is however felt that the Brahman, & Rasayana karmas of Basthies may be indirect by removing the obstruction from the passages of Vayu and thereby correcting samana vayu which controls Agni.

Most of the medicines used in Niruha Basthi are thiktha and katu. The question arises as to why katu and thiktha drugs which are Vatha Karas are used in Vathasthana. It seems that these medicines are intended to act on kapa and Pitha, which obstruct the passages of vatha. The action on vayu is therefore indirect. The necessity of Vaman and virochan Karma before Basthi Karma can be explained, if this action is understood. It is also interesting that many medicines used in Vaman karma are used in Basthi karma also. The presence of Accha kapa is considered to be an important sign of Samyak yoga of Niruha Basthi. It therefore seems that all Niruha Basties, are intended for removing the Kapa and Pitha from the passages of Vatha, without disturbing the Vatha and the Dathus.

Yoga Basthi, where only one Sodhana Basthi is given along with one Uthklesana and one Samana Basthi consists of eight Basties including Anuvasana. This is the smallest Basthi karma used when the Dosha Bala and the Vyadhi ghata is less.

Karma Basthi is required in chronic cases of vatha vyadhi especially in old patients when the Bala of the Dosha and Vyadhi is more. During Karma Basthi, four Sodhana Basties are given along with four Uthklesana Basties and four samana Basthies. The total number of Basthies including Anuvasan is thirty (30).

Karma Basthi, if properly given, creates the sense of laguthwa in the body and improves the general condition of the patient. The effect of the Karma Basthi is seen, not only during the process but also after a period of two months when Rasayana is given. Basthi Karma mainly removes the Doshas and cleans the body. For removing Srothovaigunya and correcting vatha dosha, Rasayana karma is necessary.

It was observed that one patient of Ama Vatha who could not get relief for seven years by many Ayurvedic and Allopathic medicines improved by the same Ayurvedic medicines given after Basthi karma. This suggested that the Rasayana medicines like Maha yogaraja guggulu act well in the clean body. The old patients of Hemiplegia having a history of more than one year showed some improvement in the functions after Karma Basthi.

It is also observed that during Niruha Basthi, in some cases, we get symptoms of Basthi vyapada. We observed Basthi Vyapadha symptoms twice during 84 Basties (Niruha) i.e., 2%. In one case there was severe giddiness, perspiration and restlessness which was reduced by sprinkling cold water and by internal use of soup (Mutton). In the other case there was retention of urine with burning mituration which was reduced by Palasha Pushpa Swedha and Anuvasan Basthi.

OBSERVATIONS

Observations regarding the changes in the pulse, Blood-pressure weight of stool and the weight of the patients were made and the observations are as under :

(1) **Pulse :** In all the patients there was rise in the rate of pulse. The maximum rise was 12 and minimum rise was 2. The average rise came to 4·5.

Name of Basti	Average
Utkleshan	4.7
Shodhan	4.5
Shaman	4.4

(2) **Blood-Pressure :** There was no appreciable change in the Blood-pressure of the Patients during the process. The maximum rise was 10 mm. Hg. in the systolic blood pressure. In some cases there was no change in the Blood-pressure.

Name of Basti	Average
Utkleshan	1.7/0 mm. Hg.
Shodhan	1.8/0 ,,
Shaman	1.5/0 ,,

(3) **Weight of stools :** It was observed that the total amount of stool was more during Shodhan Basti and average weight was less during Shaman Basti.

Name of Basti	Average
Utkleshan	168 g.
Shodhan	215 g.
Shaman	149 g.

(4) **Excretion time :** It was observed that more time was required during Shodhan Basti and less time was required for Utkleshan Basti.

Name of Basti	Average
Utkleshan	23.5 minutes.
Shodhan	39 ,,
Shaman	36 ,,

(5) **Weight of Patient :** It was observed that out of the 7 patients the weight increased in 3 patients and decreased in 2 patients and remained same in 2 patients. The change in wt. was as follows :

STUDY OF WEIGHT DURING KARMA BASTI

No.	Cot No.	Name	Before weight	After weight	
1 :	8	: Ramchandra	: 110 lbs.	: 110 lbs.	–
2 :	9	: Gangadhar Dangre	: 159 lbs.	: 155 lbs.	4 less.
3 :	14	: Bachai Suku	: 110 lbs.	: 110 lbs.	–
4 :	17	: Sitaram Shiva	: 96 lbs.	: 90 lbs.	6 less.
5 :	19	: Vasant Shirekar	: 112 lbs.	: 115 lbs.	3 increased
6 :	6	: Jadhav G. V.	: 126 lbs.	: 129 lbs.	3 „
7 :	12	: Marshel Lobo	: 146 lbs.	: 149 lbs.	3 „

Same	Increased	Less	Total
2	3	2	7

Wt. of patients : Total No. 7

Name of Basti	Not done	Same	Less	Increase
Utkleshan	–	3	1 lb. 1 lb. 2 lbs.	1 lb.
Shodhan	3	2	4 lbs.	4 lbs.
Shaman	–	2	1 lb. 2 lbs. 1 lb.	2 lbs. 3 lbs.
After Karma	–	5	1 lb.	1 lb.

Dr. A. Lakshmipathi Research Unit

(THE VOLUNTARY HEALTH SERVICES MEDICAL CENTRE)

M. V. R. Appa Rao, M. B. B. S., (Lond.) M. R. C. S., L. R. C. P.,
Research Officer in-charge.

The Voluntary Health Services has as one of its objects, besides the prevention and the cure of diseases prevalent in our country, the conducting of medical research not only in modern medicine but also in the various indigenous systems of medicine on modern lines.

Dr. A. Lakshmipathi Trust came forward with its liberal donation of Rs 2.3 lakhs to provide the facilities to conduct such researches in the Ayurvedic System of Medicine where the prevention and cure of disease could be delved into and those ideas that are practical and best could be evaluated in a scientific manner and absorbed into modern medicine.

The Voluntary Health Services proposed that initially the Research Unit should work on three schemes and send its proposals to Government of India for their approval and assistance in carrying out these projects. Proposals regarding these three schemes were submitted to the Government of India in May 1964. The Government approved these projects and were pleased to sanction a suitable sum in October 1964 for the half year and appointed a Governing Committee to supervise and guide the work being done by the Research Unit. The three schemes that are being undertaken are as follows :

Scheme–I : Study of Nutrition in Health and Disease and Survey of Nutrition Habits.

A literary study of the principles of nutrition according to the theory of Ayurveda is being made and a thesis based on the above study will be prepared. The topics covered so far relate to the Fundamental principles with special reference to Metabolism (Dhatu Parinama.) In Ayurvedic literature different age groups were prescribed different types of diet for their well-being and for longevity.

A survey on nutrition habits was undertaken with the object of assessing and evaluating the prevailing ideas among the older members living in the community on matters of nutrition. The survey was planned to find out what their normal diet consists of and how the normal diet is varied according to different stages of life, different seasons of the year, different states of health of an individual, different environmental conditions and various other situations. In short it was conducted to

ascertain what contributory factors were responsible for the nutritional standard of these older people, that enabled them to live to ripe old age without their having the benefits of modern ideas on nutrition. As a preliminary step a pre-testing study was done and based on the pre-testing report a final questionnaire was drawn up. The survey was conducted during the period June 1965 to Dec. '65, and for the survey one village from each of the 375 Panchayat Unions in Madras State was selected with a randomization procedure. In all, 375 villages were covered and 1,500 questionnaires were canvassed. Four persons of either sex who were above 60 years of age were canvassed in each selected village. All the questionnaires have been duly scrutinized and codified and after due analysis of the data, a Report on the Survey of Nutrition Habits is expected to be prepared at the end of July 1966.

Scheme - II : Study of 'Prakriti' and Constitutional Factors in Health and Disease.

In Ayurveda a lot of stress is laid on in-born make up of the individual (Prakriti), in relation to health and disease. In Modern Medicine today more and more importance is being placed on constitutional and hereditary factors such as High Blood Pressure, Diabetes, Peptic Ulcer etc. After a thorough study of Ayurvedic and modern medical literature on 'Prakriti' and Constitutional factors in health and disease a detailed report will be drawn up.

A detailed study of Prakriti from the theoretical stand point of Ayurveda is nearing completion. Based on this thesis a preliminary protocol has been prepared by us for the assessment of Prakriti, consisting of three parts namely (a) Psychological (b) Habits and (c) Physical features and about 100 persons were tried with this protocal. The analysis of this data collected is being done with a view to test efficiency of the protocal in assessing prakriti.

A study was also conducted to assess the vitiation of doshas in certain conditions, initially a study of Bronchial Asthma and Tropical Eosinophilia were undertaken by us and a series of vitiated doshas were assessed with a tentative protocol and a marking system was devised by us and about 34 cases of Bronchial Asthma and 11 cases of Tropical Eosinophilia were assessed. It was found that more Kapha was associated with Tropical Eosinophilia and more of Vata with Bronchial Asthma. Shortly we are hoping to undertake the assessment of vitiated doshas in many more cases and treatment of these in the wards at our disposal.

Scheme - III : A Clinical Assessment of Rasayana Drugs :

A number of drugs are known in Ayurveda which are reputed to have a tonic effect on the human body. Two such drugs are now selected for clinical trial under statistical control to assess their rasayana effect on healthy persons. The main object of this trial is to assess whether the well-known Ayurvedic drugs namely

Mandookaparani (T: Vallarai L: Centilla Asiatica) and Punarnava (Latin: Boerhavia Diffusa Lin) prevent the onset of degenerative changes which occur with ageing thereby giving a complete sense of well-being and maintenance of good health in spite of advancing age.

About 106 persons belonging to both the sexes in the age group 45 to 50 were included as volunteers for this trial after a detailed medical examination and they were administered these drugs in the form of tablets. These volunteers were allotted two drugs and a placebo by a suitable randomization procedure. The volunteers were examined at the end of three months, six months and one year. Medical examination at all stages included the following investigations.

1. Clinical Examination.

2. Laboratory investigations including T. C., D. C., R. B. C., Hb% E. S. R., Blood urea, Blood sugar, Serum protein, Electrophortic pattern Serum acid Phosphatase and Blood Cholesterol.

3. E. C. G., X-Ray and vital capacity.

Necessary follow up studies were taken up to keep the defaulters' list at a minimum. It was found from analysis of data gathered so far that Mandookaparani has effected a marked decrease in Blood Urea and Serum acid Phosphatase levels and an increase in HB%, vital capacity and total protein levels. Punarnava has shown slightly better results when compared to placebo group. We have observed that Mandookaparani not only maintains normal health but also perhaps arrests the process of degeneration. One of the by-products of these investigations of rasayana drugs has been the collection of valuable data of normal values for various investigations in men and women of 45-50 years.

In addition to these three schemes a short Pilot Trial has been taken up with a view to introduce Ayurvedic Home remedies in the treatment of minor ailments in our Out Patient Department. One of the objects of this particular scheme is to replace expensive modern medicines with simple Ayurvedic home remedies which are not only cheaper but also equally effective in these conditions.

It is proposed to undertake a few more schemes during 1966—67 as an extension of the existing schemes. A short urban survey in the Nutrition Habits of the inhabitants will be undertaken and the survey will be extended to other states also. It is proposed to evolve dietary tablets to suit persons of different stages of life, different physiological and pathological states with special reference to Prakriti.

A study will be conducted to assess the role of dietary habits in constitutional diseases. Prakriti and constitutional factors of the members of 100 or

more families will be studied with a proforma devised by us and the assessment of nutrition states of the members aforesaid will be made.

The study on Anthropometry and Anguli Pramana will also be included and undertaken.

Fortunately for us this task is made easier for us in this unit for these studies, for the family is the primary unit in the Voluntary Health Services Medical Centre unlike in other medical centres where only an individual is considered as a unit.

We are extremely grateful to our Governing Committee and in particular, to Dr. C. Dwarakanath, Adviser in Indigenous Systems of Medicine, Government of India, Dr. V. Narayanaswami, Hony. Director, Captain Srinivasa Murthy Research Institute and Dr. K. S. Sanjivi, Emeritus Professor of Medicine, Madras and Dr. B. Ramamurthi, Neuro Surgeon, Madras for their valuable and inspiring guidance in the conduct of the research work of this Unit.

* * * * *

" What a beautiful sari ! It probably costs you a fortune. "

" No, it costs only one a kiss. "

" One you gave your husband. "

" No, one he gave the maid. "

Role of General Practitioners in Treatment of E. N. T. Disorders

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It will be a matter of interest for many to know that two out of five persons who visit a general hospital require assistance directly or indirectly of an ear, nose or throat specialist. But it is very unfortunate to note that in the undergraduate study sufficient importance is not given to this speciality-in fact even during housemen's course. Sufficient practical knowledge is not acquired, with the result, that any ordinary graduate who sets out for a practice is not in a position to tackle even the elementary oto-laryngological disorder. Even though the head mirror and light has become part of outfit of an E. N. T. surgeon, every doctor must be trained to use them as in other countries. There they use it because it is so easy to examine poorly illuminated hollow spaces. The laryngeal mirror, for reasons not known, is even scarcely touched by general practitioners. The result is that cancer of the larynx which is certainly not uncommon in this part of the country, goes unrecognised during the most vulnerable part of its natural history. In modern times, general practitioners must be able to do basic examinations like indirect laryngoscopic examination, fundus examination etc. all by themselves, and then only, the general standards of the profession will improve.

During my stay in England I was pleasantly surprised to note batches of general practitioners of various age groups attending the E. N. T. hospital twice a month and getting familiarised with work and investigative procedures. Some of the members of that batch informed me, on questioning, that they were making similar visits to opthtalmic hospitals and other speciality hospitals. Little wonder their standard of practice is very high. It must be realised that any disease if it is to be cured surgically or medically requires detection at a very early stage. This is where general practitioners come into importance. To them only the patients go first and they alone must detect disease early.

After making this prelude let us go to the first important disease and the worst one amongst killers, namely Diphteria. It is a fairly common disease occuring in our crowded cities. The frequency of occurrance could be ascertained from the fact that in our hospital at least one case is admitted daily. Many of them get admitted in late stage. It must be axiomatic for every general practitioner to compulsorily examine the throat of every child which appears sick. If a reasonable

suspicion that it may be Diphteria arises in the mind of the doctor, it will be perfectly in order to commence the treatment taking however the usual precaution for Serum sickness etc. It will not be advisible to wait for the report of throat culture. Prophylactically the family physician must consider it as a part of duty to immunise groups of his young patients with trible antigen at an young age.

The second disorder to consider is foreign body in nose, ear or throat. It is usually a bead or a vegetable foreign body into the nose or ear by the child. The removal need not be done hurriedly, in an excited manner at night time because nothing unusual or dangerous will happen over night. It is much better to do it cooly with proper assistance in the morning hours. Foreign body of a ear could be attempted by syringing, and that in the nose could be pulled out by a hook. If this fails or the child is uncontrolable, we could always give general anaesthetic and remove it leisurely. It is stated that " A foreign body in the nose or ear is not dangerous by itself but it becomes dangerous when a doctor sees it". A vegetable foreign body in the respiratory tract on the other hand creates dire emergency as the life of the child may be threatened in a very short time by laryngotracheo Bronchitis. In these types of respiratory emergencies, when laryngeal obstruction is threatened, one should not hesitate to do tracheotomy. The operation of Tracheotomy by itself is not attended with any risk. It is an operation in which every general practitioner ought to have been trained and it should never be related to general surgeon.

The third important disorder I would consider looking into is malignant condition of larynx as well as nose and paranasal sinuses. A patient who is constantly hoarse in his voice for more than two weeks is certainly not a case for a newer antibiotic, but a case whose Larynx requires a careful looking into, by indirect or direct laryngoscopy. In the age group between 20 and 40, tuberculosis of the larynx is a very common condition in our country. One sees the characteristic extensive ulceration of the vocal cords plus tell-tale appearance of the skiagram. The treatment is the treatment of pulmonary tuberculosis and the laryingeal lesion heal well simultaneously. Between ages of forty and sixty malignant lesions of the larynx are common. It is always better to suspect any asymetry in the appearance of the vocal cord as being due to malignant lesion. Malignant growths of larynx are commoner than benign ones. In our experience malignant lesions of the cord do occur in young males and hence the extreme care is investigating hoarse voice cases of all age groups.

Among the paranasal sinuses maxillary antrum is by far the commonest site for malignant growths to occur. As a rule malignant lesions occur more commonly in the nose and paranasal sinuses than benign ones. Malignancy of the frontal sinuses are very rare, and malignancy of ethmoidal sinuses less so. An early detection

of maxillary growth gives good prognosis, because surgery could be done thoroughly and easily and could be combined with effective super voltage therapy.

Cancer eosophagus is a very fatal disease because it is detected only when it is fairly advanced. The only symptom by which we detect and for which the patient comes, namely dysphagia is a late symptom in the natural history of the disease. The eosophagus alone could be blamed for this, because being a dilatable organ, the intraluminal obstruction does not occur until it is well advanced. Any person beyond the age of 50, complaining of progressive dysphagia who has descended from taking solid food to liquid ones (whatever be his explanation) must be deemed to be suffering from carcinoma oesophagus until it is proved otherwise. Mere Barium swallow skiagram cannot rule out the condition. Oesophagascopy is a must in all these cases.

In women and in younger age groups cardio spasm is common, but the history of dysphagia dates to a long period, and the patient will be fairly well nourished. We have seen several patients suffering from cardiospasm. One great fallacy should always be realised and that is in certain cases which have been shown to be cardiospasm by the symptoms of the patients and the flask shaped appearance of the oesophagus, have proved to be on the operation table as cases of cancer stomach ascending up to the cardia.

Lastly in these days when people come to know very many scientific developments in magazines and papers a general practitioner ought to have heard of the disease called otosclerosis. Even though reputed to occur mostly in women it is seen fairly commonly amongst men. The signs and symptoms are characteristic enough to make a clinical diagnosis at the out-patient itself. It starts in the early adult life with conductive deafness at first unilateral tinitus and no aural disorder like otorrhoea etc. And otoscopy combined with audiogram confirms the disorder. Operative procedures are available. Rosen's stapes mobilisation operation used to be the only answer until a few years ago. But these days we have stepedectomy procedures wherein the fixed stapes is replaced by polythene or similar synthetic material and the ossicular transmission of sound is maintained. In this operation 90% success, is obtained. It will be also gratifying to hear that old discharging and damaged ears could be transformed into functioning ones by what is known as tympano-plastic methods of surgery—a method perfected by two famous German surgeons, Dr. Wullstein and Dr. Zollener. Above all, these procedures are made possible by modern chemotheraputics and magnifying operating microscope.

Hence we hope as more and more scientific advancement occurs, human society may grow more and more healthy.

" FERROMYN "

* The Best-Tolerated Medicinal Iron
* The Superior Therapeutic Iron
* Crowning Achievement and Therapeutic Leader in Ferrotherapy.

" FERSUC "

* Therapeutic PEARL of Pædiatric Hæmatinics
* PRINCE among Pædiatric Therapeutic irons.

" PANTHOR "

* Scientific Antitussive
* Rationally attacks Whooping Cough
* Controls the force, frequency, intensity and numbers of Tussive Spasms
* Ameliorative in many clinical varieties of Coughs.

" EKZEBROL "

* Logical concept for PSYCHOSOMATIC Dermatoses
* Acts PSCHYCOCUTANEOUSLY on Eczematous Dermatitis
* Soothes fiery Dermatological flare-ups
* Gets at the root of the Cause
* Calms the Skin
* Breaks the "itch-rub, itch-scratch" Circle
* Reassure the patient
* Proves the wisdom of the adage:
  "Skin diseases are not skin deep"

" TAVIPEC "

* Anti T. B. adjuvant
* Specific Expectorant
* Respiratory Disinfectant
* Breath Deodorant
* Phagocytosis Stimulating
* Streptomycin Synergistic.

" BOTROPASE "

* Physiological Hæmocoagulase
* Overarches Clinical, Pathological, Spontaneous Hæmorrhages
* Life-saving agent for life-threatening Hæmorrhages.

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Local Anaesthesia

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The drugs in common use for local anaesthesia are Lignocaine (Xylocaine, Lidocaine), Procaine and Amethocaine. Of these, Lignocaine is often preferred for its rapid onset of action (7-20 minutes); Procaine (15-20 minutes) and Amethocaine, (30 minutes), being less expensive, also have their advocates, especially among these who are even more pressed for money than for time. Whichever drug is employed, it is important that the total amount used should not exceed the limits of safety for that particular drug, and that the weakest strength which will give satisfactory operating conditions be used. The maximum safe dose of Lignocaine is 500 mg. (5-7 mg. kg. of body weight) for robust patients,—i. e. upto 100 ml of 0.5 per cent, 50 ml of 1 per cent, or 25 ml of 2 per cent solution. For very ill or elderly patients it is better not to exceed 250-300 mg. of Lignocaine. The corresponding maximum safe dose for Procaine is 1000 mg., and for Amethocaine 150 mg. The danger of toxic reactions is considerably greater when more concentrated solutions are employed—e. g. 20 ml. of 2 per cent Lignocaine is more toxic than 40 ml. of 1 per cent Lignocaine, even although the total dose injected is the same in each case. In babies, (e. g. Ramstedt's operation for pyloric stenosis is commonly performed under local anaesthesia) a very dilute solution is recommended—0.25 per cent of Xylocaine or Procaine for infiltrating the line of incision in the abdominal wall.

For infiltration anaesthesia generally, strengths of 0.25—0.5 per cent Lignocaine on Procaine, or 1 in 4,000 Amethocaine—should not be exceeded. A more concentrated solution is used for nerve block—usually 1 per cent Lignocaine or Procaine—or occasionally 2 per cent where motor paralysis as well as sensory block is desired, using a correspondingly smaller volume of solution. The addition of Adrenaline to the solution increases the safety factor and also prolongs the duration of the local anaesthesia. By causing local vasoconstriction, it delays absorption of the drug into the bloodstream, but it should never be employed in nerve blocks in the vicinity of end arteries—e. g. digital blocks of the finger or toes, or in the penis. The total amount of Adrenaline used should not exceed 0.5 ml. of 1:1000 solution, and the concentration of Adrenaline in the final strength varies from 1:100,000 to 1:600,000, over which range there appears to be little loss of its vasoconstricting action. The spreading factor, hyaluronidase, may with advantage be added to the local anaesthetic solution used for infiltration. While encouraging rapid spread of the solution and thereby hastening the onset of analgesia it does not shorten the duration of analgesia, provided Adrenaline is also employed.

Adrenaline ampoules should not be boiled. They can be autoclaved, but should not be re-autoclaved as there is a tendency towards decomposition—indicated by discoloration. Ampoules are preferred to rubber-stoppered bottles to minimise the danger of contamination.

Adequate sedation is an important factor contributing to the patient's well-being during surgery under local anaesthesia. A wide choice of drugs is available, and while tranquillisers and opiates are popular, some consider it wise to include a barbiturate which might diminish the hazard of convulsions, one of the toxic reactions to local anaesthetic drugs.

Toxic Reactions and their Treatment

Sensitivity to the drug employed comprises a very small proportion of these—probably less than 2 per cent. The remainder are due to high blood levels of the drug, which may come about for several reasons:

(*a*) Intravascular injection of the drug (which should be avoided by aspiration before injection).

(*b*) Injection into a highly vascular region with or without vasoconstrictor.

(*c*) Absolute or relative overdosage (e. g. ill patients require a reduction in the total amount injected).

Toxic reactions may include any or all of the following signs:

(*i*) Twitching of the small muscles of the face or extremities, restlessness and excitement or occasionally generalised convulsions. This is due to cerebral stimulation, and should be controlled with a small dose of intravenous barbiturate (Thiopentone 2.5 ml.). In the event of generalised convulsions, there may be accompanying cardiovascular collapse in which case depressant drugs are better avoided, and intravenous Scoline followed by incubation and inflation of the lungs with oxygen is the treatment of choice.

(*ii*) Drowsiness and inability to react to stimulation—no specific treatment is required, but a close watch should be kept on the cardiovascular and respiratory systems.

(*iii*) Cardiovascular collapse—hypotension, with a weak and sometimes irregular or rapid pulse. Vasopressor drugs should be really available, and given immediately in a suitable dose intravenously—Phoenylephrine 0.3—0.6 mg., Mephenteramine 15 mg., Ephedrine 10.15 mg. or Methedrine 5-10 mg. At the same time oxygen should be administered by mask. If cardiac arrest occurs (no mojor pulses

palpable), closed cardiac massage by compression of the lower sternum about 60 times a minute should be started immediately, together with inflation of the lungs with oxygen or air.

(*iv*) Depression of respiration may occur, with shallow breathing or periods of apnoea. Oxygen by mask should be given with assisted respiration if necessary. If oxygen or a means of inflating the lungs is not readily available, expired air resuscitation (mouth to mask or mouth to nose) can be substituted.

Some Simple Local Anaesthetic Techniques

The patient's skin should be prepared as for any surgical procedure and the anaesthetist should wear sterile gloves while performing the block.

If available, Luer-lok syringes are best for local anaesthetic techniques, as they ensure a leak-proof union between the syringe and the needle. Fine needles should be selected, and at all times aspiration should precede injection to avoid accidental injection into a blood vessel. It is most important that sufficient time be allowed for the block to take effect–even with Lignocaine this may take as long as 20 minutes. Attempts at incision before anaesthesia is complete destroy the patient's confidence.

(I) INTERCOSTAL BLOCK for abdominal surgery

It is best to block the nerves posterior to the mid-axillary line so that the lateral cutaneous branches are included in the blockade. This may be done by injecting in the posterior axillary line, the patient lying supine with his arms above his head. This gives a good exposure for all but the 12th thoracic nerve which may be difficult to locate unless the patient is turned slightly to one side.

The extent of the block is determined by the expected site of the operation. Five segments are blocked on each side, except in robust patients in whom six segments are blocked. For upper abdominal operations the 6th-10th, for mid-abdominal operations the 7th - 11th, and for lower abdominal operations the 8th-12th segments are blocked, in all cases bilaterally.

Drugs : Lignocaine 1 per cent with Adrenaline 1/100,000 may be used. 2 ml. are injected in the region of each nerve, using a total of 200 mg. of Lignocaine (20 ml. of 1 per cent solution). A mixture of 1 per cent lignocaine, 0.2 per cent amethocaine, and adrenaline 1/100,000 is used if the operating time is expected to exceed two hours.

Technique : The skin is cleaned with alcohol and a No. 12 or 14 hypodermic needle is passed through the skin in a slightly cephalad direction so as to

strike the rib above the nerve to be blocked. The needle is then manoevered downwards until it passes just under the lower border of the rib, where it is advanced about 3 mm. (1/8 in.). After aspirating for blood or air the solution is injected. If a swelling appears beneath the skin at the injection site, the needle is too superficial and should be advanced further so that it lies between the intercostal muscles. A syringe should always be attached to the needle throughout, to avoid the slight risk of a pneumothorax occurring if the pleura is pierced.

Both this block and the next (abdominal field block) should provide some relaxation of the abdominal wall, but need to be supplemented by infiltration of the coeliac plexus, mesentery, or para-oesophageal area (for Vagotomy), depending on the nature of the surgery. Otherwise autonomic stimulation from the pulling on the viscera may upset the patient. For this purpose a solution of 0.25 per cent of lignocaine or procaine is suggested. Alternatively, light general anaesthesia, will also prevent the undesirable effects of autonomic stimulation. Deep anaesthesia is not necessary because relaxation is provided by the 'local' block.

(II) ABDOMINAL FIELD BLOCK

(a) Reactions

The segmental, spinal nerves may be blocked as they enter the rectus sheath– the seventh thoracic nerve just below the xyphoid process in the midline, and the eighth, ninth, tenth and eleventh at the lateral border of rectus. (See Fig. 1).

Drugs: 0.5 per cent Lignocaine or Procaine–not more than 100 ml. A 20 ml. syringe fitted with a 2″ No. 20 needle can be used for the nerve blocks, and a 4″ long No. 20 needle for infiltrating between the wheals.

Technique: With the patient lying on his back, five skin wheals are raised, one at the tip of the xiphisternum, one on either side at the level of the 9th costal cartilage, where the lateral margin of the rectus muscle crosses the costal margin, and one on either side on the lateral margin of the rectus sheath just above the level of the umbilicus. Should a lower block be required, two more wheals can be raised below the umbilicus. Starting with one of the lowest wheals, a needle attached to a loaded syringe is passed through the wheal and pushed forward in a direction slightly inclined towards the rectus muscle. As soon as the needle touches the rectus sheath, the patient will complain of pain, and the anaesthetist will feel a definite resistance. Hence the needle is always passed through the rectus sheath with a sharp, stabbing movement. It is advanced 0.5 to 1 cm. further into the muscle and 2 ml. of the solution are injected. The needle is withdrawn until the point lies in the subcutaneous tissues, and then reintroduced several times more and more

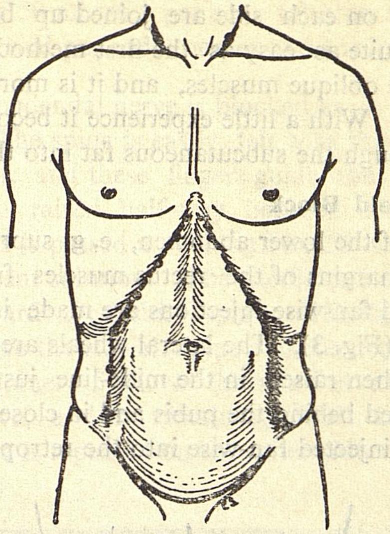

FIG. 1

obliquely upward, and then downward, fanwise, as in Fig. 2 each time injecting about 2 ml. into the rectus sheath. This is repeated through each of the wheals in succession. Lastly the wheals on each side are joined up with a subcutaneous infiltration.

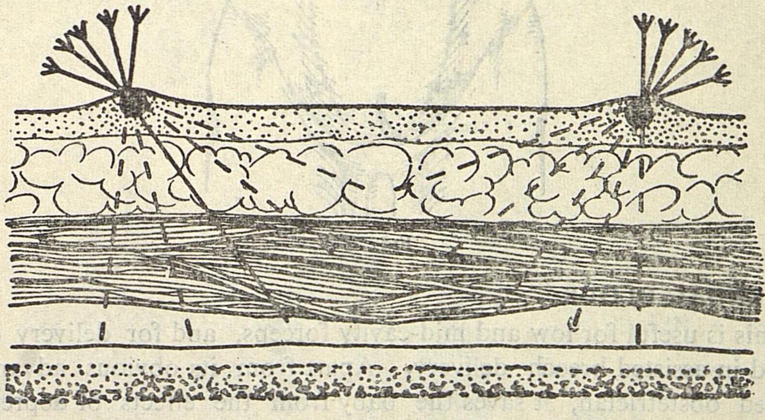

FIG. 2

(b) Extended Field Block

Field block can be made more extensive to provide wider anaesthesia of the peritoneum. Skin wheals are raised at suitable intervals on either side, starting just below the xiphisternum and running along the costal margin to the tip of the 11th rib, and from that point to the iliac crest at the anterior superior iliac spine. The needle is introduced through the wheals as described above, and the solution is distributed fanwise through the abdominal muscles in a plane perpendicular to the

skin. Lastly, the wheals on each side are joined up by a line of subcutaneous infiltration. This is not quite as easy as the first method. The nerves lie between the transverse and internal oblique muscles, and it is more difficult to be sure of the exact depth of the needle. With a little experience it becomes quite easy to tell when the needle has passed through the subcutaneous fat into the muscles.

(c) Lower Abdominal Field Block

For operations of the lower abdomen, e. g. suprapubic cystostomy, wheals are raised on the lateral margins of the rectus muscles from the pubis to about the level of the umbilicus, and fan-wise injections are made into the rectus muscles as in the abdominal field block (Fig. 3). The lateral wheals are joined up by subcutaneous infiltration. A wheal is then raised in the mide-line just level with the pubis, and through it a needle is passed behind the pubis and in close contact with it, and 20 ml. of 1 per cent solution are injected fan-wise into the retropubic space (*R*).

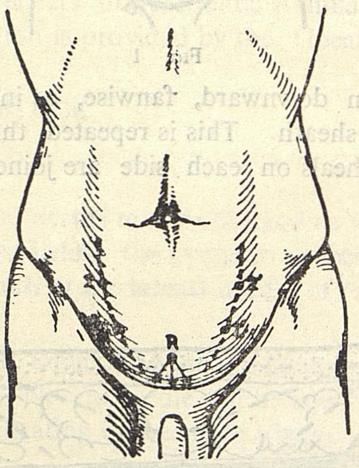

FIG. 3

(III) PUDENDAL BLOCK

This is useful for low and mid-cavity forceps, and for delivery of the after-coming head in assisted breech delivery. Apart from its obvious advantage to the single-handed obstetrician, it saves the baby from the effects of depressant drugs administered to the mother just before delivery.

The pudendal nerve comes from the anterior divisions of the second, third and fourth sacral nerves. It passes through the greater sciatic foramen, crosses the spine of the ischium along with the internal pudendal vessels, to re-enter the pelvis through the lesser sciatic foramen. With the pudendal vessels, it passes upwards and forwards in Alcock's canal, a tunnel in the fascia on the outer wall of the ischio rectal fossa, gives off an inferior haemorrhoidal nerve and divides into the perineal nerve and the dorsal nerve of the clitoris.

Drugs : A total of 50 ml. of 1 per cent solution of Lignocaine or Procaine is used for blocking the internal pudendal nerves and for local infiltration.

Technique : The pudendal nerve is blocked as it passes in close relation to the spine of the ischium. The spine is easily felt with the index and middle fingers of one hand in the vagina, and these fingers guide the needle towards the spine (Fig. 4). A skin wheal is raised half-way between the vagina and the ischial tuberosity, and through this is passed a 6″ long No. 20 needle attached to a syringe containing 10 ml. of 1 per cent solution. The needle point is directed parallel to the direction of the vagina towards the ischial spine. The injection of the anaesthetic solution is started 2 cm above the ischial spine and the needle gradually withdrawn and then passed under the spine. 5 ml. of the solution are distributed around the spine so as to bathe the nerve, and the remaining 5 ml. are injected as the needle is withdrawn. This procedure is repeated on the other side.

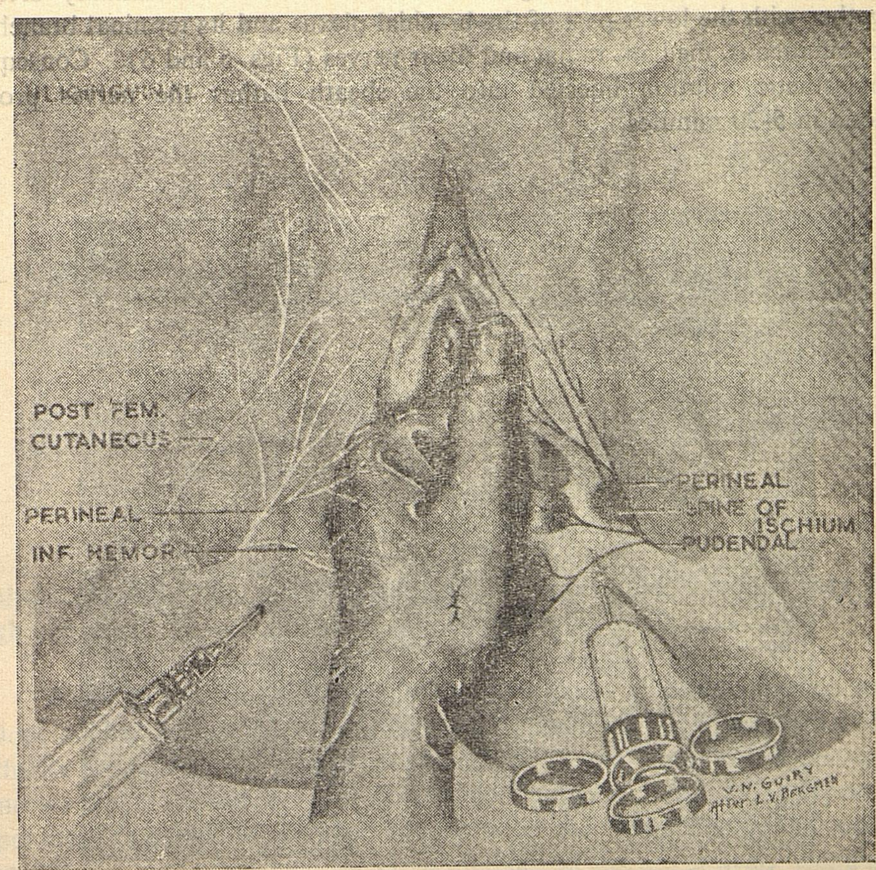

Fig. 4

Through the same skin wheal, the needle should be directed subcutaneously in an anterior direction towards the symphysis pubis. 5 ml. are injected here and another 5 ml. are injected into the labia majora as the needle is withdrawn, blocking the branches of the ilio-inguinal and genito-femoral nerves which supply the labia. Lastly, a further 5 ml. of solution is injected posteriorly on each side in the direction of the perineum and ischial tuberosities.

(IV) AXILLARY BLOCK

All the main nerves of the arm can be blocked in the axilla and this is safer than the supra-clavicular brachial plexus block because there is no danger of puncturing the pleura. Even in expert hands the incidence of pneumothorax after brachial plexus block is as high as 4 per cent.

The axillary sheath of tough fibrous tissue encloses the axillary artery and vein together with the lower part of the brachial plexus and its terminal branches–the musculo–cutaneous, median, radial and ulnar nerves (Figs. 5 and 6). Consequently, local anaesthetic solution injected into the sheath bathes the nerves producing anaesthesia in 5-20 minutes.

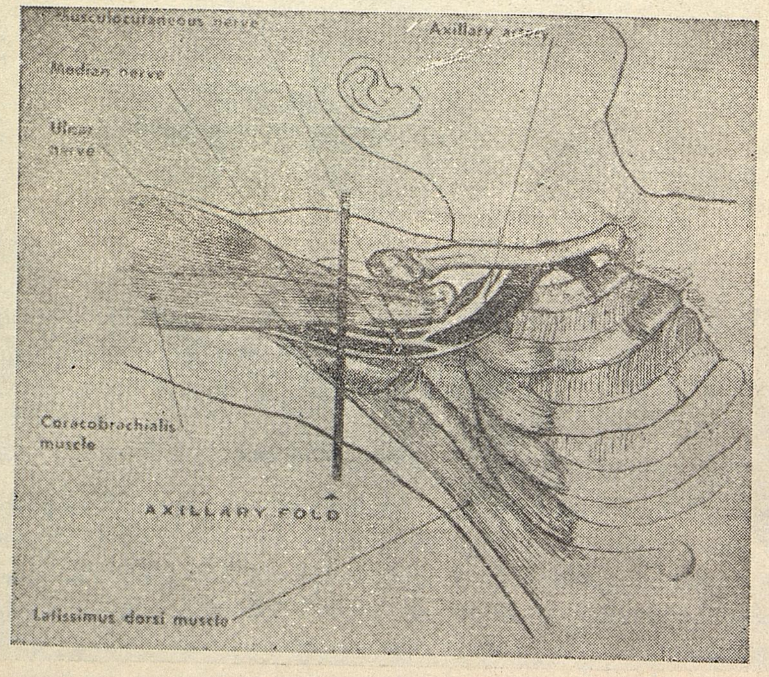

Fig. 5

Drugs : 30 ml. of 1 per cent Lignocaine or Procaine for the block of the main nerves in the axillary sheath. 20 ml. of 0.5 per cent Lignocaine or Procaine for the subcutaneous ring block.

Technique : The patient lies on his back, with his arm abducted to a right-angle. The elbow is then flexed and the arm rested on a convenient support. The pulsations of the axillary artery are felt as high in the axilla as possible, and the index finger of the anaesthetist's left hand is kept in position over the artery, which acts as the landmark for the nerves. Two small needles 1″ long (No. 22 or 23) with no syringe attached, are inserted, one on each side of the axillary artery, and a characteristic 'pop' may be felt as the needles pass through the axillary sheath. The pulsation of the artery is transmitted to the needles when they are correctly placed. After careful aspiration for blood, 15 ml. of 1 per cent Lignocaine are injected into each of the needles. If, towards the end of the second injection, solution drips out through the first needle this confirms that both needles lie within the sheath, which is

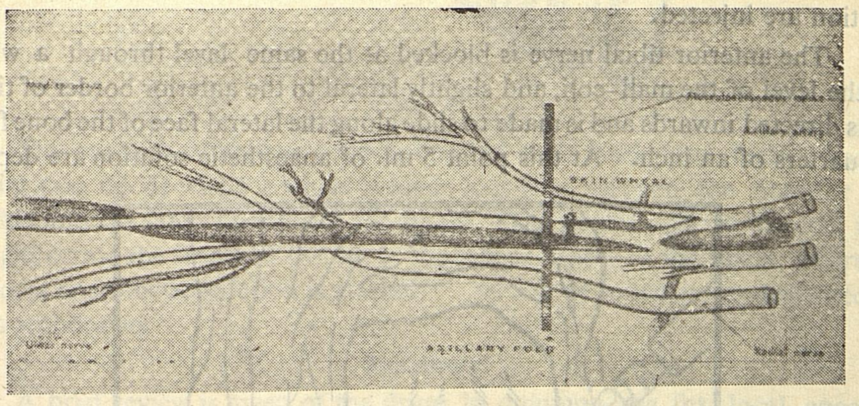

Fig. 6

becoming distended. To avoid two punctures, the entire solution may be given through one needle accurately placed in relation to the artery.

When an upper-arm tourniquet is to be used, it is necessary to perform a ring block around the upper arm a little lower than the level of the initial block, to anaesthetise the intercosto-brachial nerve and the lateral branches of the supraclavicular nerves which are not included in the earlier block. For this purpose, 10 ml. of 1 per cent Lignocaine may be diluted with the same volume of saline, and infiltrated subcutaneously round the circumference of the upper arm, using a 3″ long No. 20 needle.

(V) DIGITAL BLOCK

This is widely used for minor surgery of the fingers and toes. Two important points should be observed.

(1) No more than 8–10 ml. of local anaesthetic solution should ever be injected around a digit; if this is exceeded, the blood supply may be endangered.

(2) Vasoconstrictor agents should never be added to the local anaesthetic solution; spasm of an end-artery may cause gangrene.

(VI) ANKLE BLOCK

Anaesthesia of the foot and ankle is achieved by blocking the posterior tibial, anterior tibial and musculo-cutaneous nerves, as shown in Figs. 7 and 8.

Drugs : 15–20 ml. of 1 per cent Lignocaine or Procaine.

Technique : The approach to the posterior tibial nerve is through a cutaneous wheal on the postero-medical aspect of the ankle one inch medial to the Achilles tendon, the needle being directed inwards until the point impinges on the posterior face of the tibia (Fig. 7). The needle is then withdrawn slightly, and 5 ml. of solution are injected.

The anterior tibial nerve is blocked at the same level through a wheal just above the level of the mall-coli, and slightly lateral to the anterior border of tibia. The needle is directed inwards and is made to slide along the lateral face of the bone for about three quarters of an inch. At this point 5 ml. of anaesthetic solution are deposited.

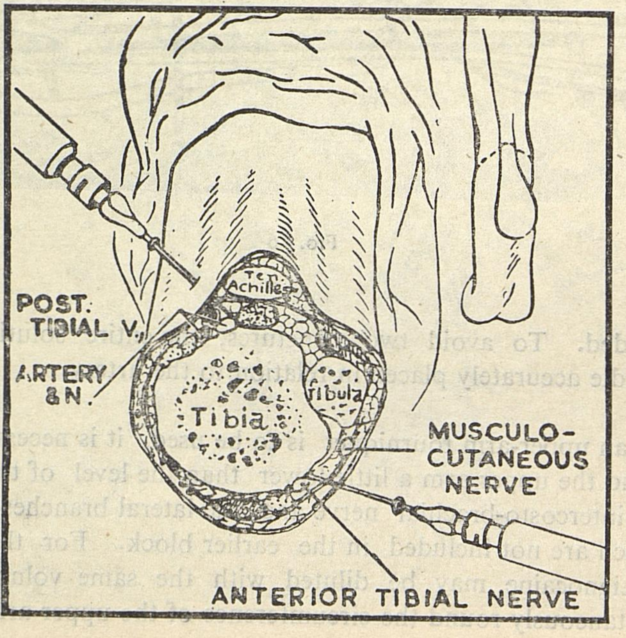

Fig. 7

Fig 8

The musculo-cutaneous nerve is blocked at a level four inches above the ankle joint (see fig. 8) where a wheal is made half-way between the anterior border of the tibia and the lateral border of the fibula. The needle point is directed inwards at an angle across the fascia of the leg to the lateral aspect of the fibula, where injection of local anaesthetic solution is started. 5-7 ml. of solution are deposited as the needle is withdrawn.

Summary

A brief review is given of the drugs in common use for local anaesthesia, with particular attention to the maximum safe dose and possible toxic reactions.

The techniques of the following blocks are described in some detail.

I. Intercostal block.
II. Abdominal field block.
III. Pudendal block.
IV. Axillary block.
V. Digital block.
VI. Ankle block.

Acknowledgements

We would like to acknowledge our debt to 'Pitkin's Conduction Anaesthesia', and 'Text-book of Anaesthetics' by Minnett and Gillies—from both of which, diagrams have been copied.

Diet and Exercise.

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Human system is created and adopted in such a way as to exist and to nourish itself. Human body consists of the Skeletal, Muscular, Cardiovascular, Nervous and Digestive systems. To maintain normal health and function of the body, nutritious diet and exercise are necessary, so that proper blood circulation, digestion and absorption take place.

Diet at various stages in life vary i. e., childhood, young and growing stages and adult life and old ages. Children require more nutritious diet with Vitamins. Natural form of diet is very essential. Milk, Green Vegetables, raw and fresh fruits and proteins are very necessary for health and growth. Diet has to be changed as age advances. During old age diet has to be cut down to its minimum, avoiding over-feeding and avoiding oils and fats and sugar and to reduce in such a way to help starvation at night. More nutritious-diet as wheat or ragi can be substituted frequently in small quantities in place of rice. Fresh fruits are of value at all stages in life. In place of apple, it can be said "A Plantain a day keeps the Doctor away". Green leafy vegetables form healthy diet always. Late dinners at night should be avoided, since many cases of complicated heart diseases and indigestion are reported the next day after dinner. Diet prepared by the refined oils and fats are the frequent causes of heart attacks as reported by the Cardiac Specialist. But dinners are arranged only at night for convenience. Children develop fever and Gastro-intestinal troubles after attending dinners with the parents.

It is very important how diet is cooked at house or anywhere. Always you can actually see in your own kitchen at home that a very important blunder is done in cooking, i. e., the vegetables and the fluid is filtered or drained to make the preparation dry. The boiled water takes away the mineral and essence of the vegetables. This I have noticed in the best Vegetarian houses either prepared by the efficient cook at home or in hotels. This should be avoided at any cost. Whatever the raw vegetables and fruits that can be consumed-without heating, should be consumed always.

Exercise for the body is very essential at all stages in life. For the young, sports and games keep them healthy and fit. As age advances, regulated and graduated exercise are always good. Light games or long walk or walking on the gradient or up the hills, keep the system healthy. Maintenance of body weight within normal limits should be considered and the same can be done through regulated diet and exercise. It is always a problem to reduce the body weight or the fatty deposits in well-to-do people with sedantary habits. These people require daily exercise as out-door games or out-door exercise and not indoor work. Over weight and fatty body cause strain on the heart and fatty infiltration of heart muscle, producing palpitation and breathlessness on exertion. These persons consult the doctors and try to take large doses of drugs and injections without caring for the fundamental principle. Even doctors also follow the treatment required by the patient without following the principles. Fatty persons sitting at home are always the victims of Cardio-vascular diseases. Out-door games and out-door exercises are more essential than any indoor exercises or work.

"Worry is rust upon the blade". To avoid worries pre-occupation of the mind is required - Diversion of the mind and exercise for the brain are also very essential. It can be well practised by going on holiday mood to quiet and cool surroundings and having light games and exercises, walking up the hills etc., This gives a very tonic and soothing effect on the nervous system. Businessmen, men and women worrying over their properties and families and quarrelling over the same do get often attacks of Cardiovascular or nervous system or mental troubles and sleeplessness. Such people should not worry over the affairs at home. They should frequently go to health resorts and spend their time in a very useful manner.

Rest is more important after a day's work. Rest for the body and the mind are required daily. Rest and sleep help in the revitalizing of the nervous system. Some limited hours are required daily for rest and sleep.

"Early to bed, early to rise, makes a man healthy, wealthy and wise". "Health is Wealth".

Standardisation of Drugs of Indian Medicine.

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(The Government of India is amending the Drugs Act of 1940 as to include the Indian Systems of Medicine in its purview. In that case, the Pharmaceutical Industry of Ayurveda, Siddha and Unani should conform to certain uniform Standards of their preparations and in this process modern Chemistry is of invaluable help. How this could be done is explained in this article. — Ed.)

Chemistry has become an important branch of science and it plays a very significant role in many ways. It deals with the composition and structure of matter and with the transformation that the matter undergoes. Largely as a result of application of quantitative methods to chemical phenomena, its role is spread over a wider sphere. Science today is not the same science of fifty, twentyfive or even ten years ago. Today's accelerated pace of research, added by new instruments appliances, and techniques and points of view imparts a rapidly changing character. Each new and important discovery is not just a mere addition to knowledge but also throws our established beliefs in question.

Many plants are known to have medicinal properties. Of course, surprisingly large number are still of importance in modern medicine also. Aspidium, Opium, Ergot, Cinnamon are a few which are used in ancient days as they are used in much the same manner today. By trial and error our ancestors must have acquired biochemical knowledge that was useful in determining which plants and animals possessed food value and which were to be avoided because they were unpalatable, poisonous and dangerous. The healing powers of certain herbs, roots and juice were mostly discovered by accident, and these were handed down from one generation to another. These informations were maintained and followed as unwritten secret recipes by these medicine men. Medical sciences developed thus and were used by the ancients to prepare healing potions, to eliminate pain, control suffering and counteract disease.

In the above manner a system of medicine was prevalent in India and these were developed under the name Ayurveda, Siddha and Unani in

different regions of our country. Some natural substances like spices and condiments, coffee beans and tea leaves, ginger, clove, acacia are used in medicine as therapeutic agent and the same substances find use in every-day life and industry. But more frequently the chief principles of these crude drugs are separated by various means and are employed in a more specific manner. These principles regardless of whether it is a single substance or a mixture of substances are considered as chief constituents and find use in medicine. Modern aspects of the chemical study include not only the crude drugs but also their natural derivatives by extraction, separation, isolation, and identification of the component constituents of plant and animal drugs. Nevertheless the purpose for which these medicinal substances are employed today parallels closely the use for which they were intended by our predecessors. The crude drug may be composed of many chemical compounds and it is common practice to single out those compounds that are responsible for the therapeutic effect and call them active constituents. These active constituents always occur together with inert constituents in plant and animal drugs. In the present day, adulteration in commerce by inferior, spoiled and deteriorated drugs is not uncommon. The application of physical constants viz., size, shape, color, smell etc., alone may be deceptive and does not help us easily to differentiate between the good and bad samples.

The evaluation of a drug by chemical methods will help in the determination of quality and purity. Quality refers to the intrinsic value of the drug (i. e.) amount of medicinal principle or active constituent present. In this context it is worthwhile to mention some medicinal preparations wherein metals or their ores are the starting material. Virtually every element reacts with oxygen and the products called *oxides* are of considerable theoretical and practical importance. A few of these oxides are widely distributed in nature. Water requires no comment. Carbon dioxide is found in the atmosphere and also in the form of calcium carbonate in marine shells, limestone and marble. Silicon dioxide is found in the pure state in quartz and sand and in the bound state as silicates in most rocks.

Herein it may be mentioned that some preparations made from marine shells contain a larger proportion of calcium oxide whenever the temperature of calcination (putam) goes higher than the optimum. These optimum temperatures may be easily arrived at by a study of calcination (putam) using Pyrometers and Thermocouples instead of merely or

empirically relying on the quantity of material used for ignition. Similarly, the metals like tin, lead and zinc — all appear white except that lead may seem to be heavier than others. But once these metals are converted to the bhasma state, all of them may look alike. It is only by chemical methods and tests, it may be possible to distinguish one from another. The fineness of the bhasma which is defined as Rekha purna, Varitara and Hamsavatharana may be objectively estimated by using standard test sieves. A degree of coarseness or fineness of a powder is differentiated and expressed by the size of the mesh of the sieve through which the powder is able to pass.

Certain liquid medicinal preparations known as Asavams and Arishtams are commonly used in Ayurvedic system of medicine. These drugs by their mode of preparation contain some self-generated spirit in addition to various other drugs that are also invariably present. At times these preparations acquire a more sour taste which is empirically called acidic by our ancestors. The same may be easily determined and expressed relatively making use of the modern appliance (pH meter). By determining the specific gravity of the distillate obtained from these preparations, it is possible also to give a measure of their alcoholic content. In a similar manner the evaluation of total solids, reducing sugar etc., will enable us to arrive at standards for this group of medicines.

Thus by a variety of methods (qualitative and quantitative) it is possible to identify and characterise the various radicals present in indigenous drugs. Purity requirements and purity tests stating the limits of permissible foreign matter may be arrived at for these drugs. This will also enable one to identify by tests the common adulterants that may be found in many raw drugs available in commerce. In this manner, drugs of outstanding therapeutic value may be standardised and a compendium for these drugs may be established just like other national pharmacopoeias.

I thank Dr. V. Narayanaswamy, H. P. I. M., Director for a helpful discussion.

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Urinary Infections — A General Practitioner's Challenge

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Urinary Infections constitute one of the most important problems in modern medical practice. The importance of urinary infections can never be over emphasized. The incidence of urinary infection is estimated as 20 – 25 per cent of the general population of a country. 20 per cent of diabetics have been found to have asymptomatic urinary infection. It has been estimated that 3 per cent of 4,000 autopsies done showed renal infection as the major cause of death and 10 – 15 per cent showed microscopic evidence of pyelonephritis. Also in some records only $\frac{1}{5}$ of the cases discovered during post mortem examinations, were diagnosed during life. While this survey emphasizes the evasiveness of diagnosis of renal infections especially chronic infections, other records show that drugs and modern antibiotic discoveries alone have done hardly any good in the treatment of chronic renal infections without the existing cause being corrected. Nearly 15 – 20 per cent of patients with chronic pyelonephritis with no demonstrable cause ultimately die of renal failure. These records from the literature reveal the seriousness of the problem.

In considering urinary infections, their causation, pathology and treatment, the whole of the urinary tract must be taken into consideration in continuity, because irrespective of the original site of infection, the kidneys, which may be involved, ultimately are responsible for the outcome. However, the subject being vast, infections of the kidneys particularly, may be discussed in detail and other parts of the urogenital tract only briefly. Pyonephritis, where the kidney is converted into a bag of pus, carbuncle where there is an absess formation in the kidney cortex and perirenal abscess are purely surgical and more easily diagnosed and rarely overlooked beyond a short period of time and hence need not be considered. The treatment of these conditions do not ordinarily come under the care of the general practitioner.

Pyelitis and pyelonephritis on the other hand are diagnostic problems and the treatment is long and often with an indefinite result. Cystitis without a cause is rare, but certain diseases of the bladder inconclusively ascribed to infection, like interstitial cystitis, are hard to treat. Prostatitis and urethritis are infections which at best respond temporarily to treatment. These above mentioned diseases are common.

Pathogenesis: The urinary tract is highly susceptible to infection considering its accessibility to the blood stream, the lmphatics and direct contamination from distant pyogenic foci or neighbourhood infective processes. Thus infection is blood borne to the kidney from a skin boil or sinus infection. Ascending infection from the bladder is common and occasionally lymphatic spread of pelvic adnexal infection to the kidney occurs. Cystitis from infection directly from the urethra especially in girls and women is well recognized. Prostatitis following urethritis in man is common. Once the infection reaches any part of the urinary tract, and kidneys in particular, there is an unfortunate tendency for it to become chronic and silent. Thus chronicity is a characteristic feature of urinary infection because the urinary tract is an intricate system of tubes and tubules and obstruction to drainage of urine is the commonest pathology. Thus stasis following obstructive lesions in the urinary tract – congenital or acquired inflammatory or neoplastic and functional or paralytic, is the one single major factor responsible for perpetuating infection in the urinary tract and any treatment which does not remove the obstruction can hardly ever produce lasting results. Proximal dilatation of the tract results in damage to the epithelium and delicate tubules and infection further damages the tissue and ultimately decompensation occurs and renal damage and death is the logical termination. Hence the presence of an obstructive pathology is a major factor in the maintenance of infection chronically in the kidney, bladder or prostate and infection in one place can feed the other parts. A spongy tubular tissue like the kidney and prostate easily gets involved in a viscious cycle of obstruction, infection and further obstruction.

There are other factors responsible for chronicity being a special feature of urinary infection, thus:—

(1) **Nature of the Organisms:** B. proteus and B. pyocyaneus especially are two bacteria which do not leave a tissue once they get hold of it and are very difficult to erradicate. With the advent of modern antibiotics and their improper use, the incidence of urinary tract infection by B. proteus and B. pyocyaneus has risen from a pre-antibiotic 28 per cent to 48 per cent in the post antibiotic age. Incomplete treatment due to early withdrawal of the drug, inadequate dosage and unsuitable drugs are probably responsible to a large extent for the increase in bacterial resistance. Tuberculosis of the urinary tract is a smouldering disease and diagnosis is often delayed due to lack of even suspicion.

(2) **Clinical Course:** Urinary infection may be acute with no previous history of symptoms. If there is a previous history, the present infection is suggestive of recurrence. Symptoms not responding to treatment are due to persistent infection. The clinical course has a bearing on the diagnosis and management. When the symptoms are acute the signs are diagnostic and treatment response to modern antibiotics is prompt. Thus in acute pyelonephritis, acute prostatitis and urethritis,

diagnosis and treatment are no problem. The fever, chills, strangury, dysuria, loin pain, tenderness and leucocystosis are well recognisable, the diagnosis is betrayed and early appropriate treatment is usually given. However acute infections in children particularly pyelonephritis is difficult to diagnose because the symptoms and signs may be misleading and the child may undergo treatment for 'Influenza', worms etc. As infection becomes chronic, the symptoms and signs tend to be vague, misleading and apparently insignificant. The diagnosis thus gets postponed and the renal damage imperceptibly progresses to an irreversible stage.

(3) **Renal infection in children :** Pyelonephritis in its various aspects has its greatest impact in childhood. According to Nesbit, 25 per cent of pyelonephritis in childhood is asymptomatic, as far as the urinary tract is concerned and whatever insignificant extra renal symptoms that are there might lead you away from the diagnosis. This may be because of the high incidence of congenital urinary tract anamolies in childhood. Symptoms of acute or chronic pyelonephritis are often minimal and misleading. Frequency, dysuria and enuresis might suggest urinary infection; but more frequently the child may be brought to you for gastrointestinal symptoms, failure to gain weight, anaemia, headache, apathy and irritability. All these may be signs of renal damage which has set in silently since birth, and probably the added infection increases the tempo of the destructive pathological process to produce more significant symptoms. The blood pressure may be raised. Physical examination may be difficult in very small children. However obstructive lesions in the lower urinary tract may be suspected if there is dribbling of urine, straining and a palpable bladder even after micturition. Watching the child micturate often gives more information.

(4) **Diagnosis :** Pyuria is the only sign of renal infection in children. Acute pyelonephritis is easily diagnosed by the presence of fever, chills, dysuria, pyuria. However, pyuria may be intermittent and the diagnosis may waver between various infections of childhood like pneumonia, meningitis, appendicits etc. under such circumstances. Hence repeated urine examinations for pus cells must be done. When the infection is not thoroughly and permanently cleared by adequate medical treatment a complete urological investigation must be done. A congenital abnormality of the kidney, stricture of the ureters, bladder neck obstruction, urethral valves may be the cause. The blood urea may be raised, anaemia may be present, and renal function studies may be abnormal.

Intravenous pyelograms reveal the upper urinary tract anamolies. A cystourethrogram may show vesicoureteral reflux, bladder neck contracture, valves etc. Delayed cystograms particularly are useful.

Treatment : Acute infections respond well to treatment if proper drugs are given in adequate doses, till the symptoms disappear and pyuria disappears

completely. Chronic pyelonephritis however is unpredictable. Corrective surgery must be done, but the outlook is poor since the renal changes are often progressive and irreversible. Nearly ⅔ do not get a satisfactory cure and 10 per cent die in uremia. This is sad indeed!

Pyelonephritis in pregnancy : Renal infection in pregnancy is sufficiently frequent to need consideration. Practically all pregnant women have alternations in the urinary organs during pregnancy. Dilatation af the ureter above the pelvic brim on the right side occurs often with hypertrophy and oedema. The urethra, bladder and trigone are also involved. The changes are maximum during the 3rd month and last for several weeks after delivery. But it is interesting to note that acute pyelonephritis in pregnant women is reported as only two per cent, but most other patients who had acute symptoms during pregnancy gave a history of renal infection in childhood, suggesting thereby that pyelonephritis of pregnancy is more likely to be an exacerbation of childhood infection. Again it is interesting to note that nearly 40 per cent of pregnant women show bacteria in the bladder urine, but I must at once say that bacteria in the urine does not indicate infection unless the organisms belong to the class of pathogens and the bacterial count is above 100,000 per ml. of viable organisms. The symptoms of acute pyelonephritis are the usual classical ones with fever, loin pain, mostly on the right with dysuria or haematuria. Acute cholecystitis and appendicitis are the rivals in diagnosis. The treatment of course is conservative with antibiotics and plenty of fluids. Chronic pyelonephritic symptoms on the other hand are vague and misleading, but acute exacerbations are likely to follow a classical picture. Urine examination, blood pressure check and renal function tests are indicated, and acute episodes are managed by antibiotics. However if the renal damage is there, due to previous infection, termination of pregnancy is advisable to the mother. Such patients are better hospitalised. It is fascinating how the urinary tract gets back to normal after delivery, but a regular periodic check on the urine is essential.

Pyelonephritis in the diabetic : Renal infections in the diabetic individual are frequent. A complete lack of symptoms referrable to the kidney has been a peculiar feature of pyelonephritis even of the acute type. Harrison found on an average 15 — 20 per cent of diabetics having asymptomatic renal infection. When urinary symptoms occur they are often attributed to the diabetic condition. When vomiting and acidosis occur they have been ascribed to diabetic acidosis, and pyelonephritis has been frequently missed, and the symptoms which are due to renal damage are completely misinterpreted, till a late stage. Neurogenic bladder due to neuritis may cause urinary dysfunction and infection and silent damage from renal infection is more common than it is realised. A death in uremia is diagnosed as death due to Ketosis. The prognosis is all the more poor, because arteriosclerosis that is so often seen in a diabetic patient may produce hypertension also. The only

way to diagnose it, is to suspect pyelonephritis when a diabetic is not doing well and his metabolic control goes out of gear and if nothing else is obvious to explain it. Urine examination for pyuria and bacteria confirms the suspicions.

Treatment is often unsatisfactory due to obstructive lesions needing surgery, bladder dysfunction, hypertension and other associated diabetic complications. The dreaded complication of necrotising papillitis is common in diabetics. This may be suspected if the urine shows pus and albumin, and the blood shows leucocytosis. I. V. P. or retrograde pyelogram may show irregularity of papillae. Renal papillae have been found in the urine. Thus pyelonephritis is a major cause of death in diabetics and hence the need for urine examination not only for sugar and acetone but albumin and pus periodically.

Complications of Chronic Urinary Infection : At this stage a little consideration of the complications of chronic urinary infections is indicated. Other types of surgical renal infections like perinephric abscess, carbuncle of the kidney and pyonephrosis are not within the purview of the subject of talk today. Apart from that, these lesions rarely go undiagnosed for more than a week and are easy to diagnose and treat even though the treatment is purely surgical. The complications that need further explanation are (1) renal hypertension and (2) chronic renal failure.

Renal Hypertension : The incidence of hypertension in chronic pyelonephritis is reported as 28.7 per cent and 34.7 per cent died in uremia. The relationship seems to be obvious in children in whom hypertension otherwise is uncommon but pyelonephritis is common. The chronic pyelonephritis fibrotic changes take place in the renal paranchyma which is contracted, blood vessels are narrowed and functional limits are atrophied and hyalinised. The exact mechanism of causation of hypertension is not finalised. No attempt is made here to discuss the views on etiology of renal hypertension.

Chronic Renal Failure is an important complication of chronic pyelonephritis due to any cause. Chronic renal failure consists of a persistent impairment of both glomerular and tubular function of gradual onset and of such severity that the kidneys are no longer able to keep the internal environment normal. This is simply due to deficiency of neprons from any of the kidney diseases. It is characterised fairly uniformly by a wide variety of biochemical disturbances and numerous clinical signs and symptoms. It is one of the outstanding peculiarities of chronic renal failure that some of the biochemical disturbances do not cause symptoms while most of the symptoms have no biochemical basis. Thus the four main features of headache, anorexia, lassitude and anaemia have no rational explanation. The water concentration power is lost and disturbances of water and electrolyte balance occur. The acid base balance and metabolism of sodium and potassium are affected. Hypocalaemia and bone changes are frequent. Urea

retention is well known due to diminished glomerular filtration. Albuminuria is nearly always present.

Hiccough, nausea and vomiting are very common. Lassitude, langour, muscular weakness and apathy are some of the symptoms which may appear early. Hematemesis, malena and anaemia may be misleading. Uremic ulceration of the gastro-intestinal tract is the basis of these episodes.

Diagnosis : This is a matter of suspicion which again is possible only if a clinician is aware of the various aspects of urinary infection, its manifestations and tracherous nature. A searching history of various symptoms, and physical examination with an open mind is half the battle won. Any evidence of obstructive uropathy is recorded. In children a urinary history with reference to enuresis, dribbling, straining and abnormal micturition pattern, gastro-intestinal symptoms and growth disturbances are particularly important.

Thus with a well armed suspicion and evidence of obstructive lesions, the next most important examination is examination of the urine.

Collection of Urine : (1) Washed midstream in men. (2) Careful catheterization in children and women. Ordinary soap and Hydrarg per chloride Sol. 1/10,000 dil are the best cleansing agent. Urine is collected in clean containers (ordinary clean drinking glasses are satisfactory for men).

Apart from the urine examination for sugar, albumin etc. pus cells have to be looked for. Findings upto 6–7 pus cells per field is normal. More than 10 pus cells per high power field is very suggestive of infection. If a centrifuge is not available the urine is left to settle down in a container. A drop of the sediment is smeared on to a glass slide and stained by gram stain and examined under a microscope for pus and bacteria. Another drop is put under a cover slip on a slide and stained by gram stain and examined under a microscope for and bacteria. Another drop is put under a cover slip on a slide and formed elements are examined. Before the tests are done it is essential that some of the urine is collected for bacteriological studies if facilities are available, but examination is certainly more practical for most general practitioners and according to some, more accurate than cultures which are likely to grow contaminants also. The main advantage of a culture examination is the sensitivity test for antibiotics. The culture test becomes all the more difficult if the specimen has to be sent to a distant laboratory. (This means careful packing and chances of growth of contaminants is great.)

Blood counts : A leukocyte count is of help. Blood parasites like malarial and filarial parasites in this country have to be kept in mind in every acute case.

At this stage a fallacy in urine examination needs to be brought to mind. In chronic infections, especially of the kidney, the pyuria is likely to be intermittent. Sometimes the Bacteruria is likely to be intermittent. A single specimen may not show pus cells or a specimen may show bacteria only or pus only. Hence more than one specimen may have to be examined for pus cells. When the disease particularly is chronic further finer methods may have to be employed (Bacterial counts) in well equipped laboratories. But such cases anyhow are better avoided by the general practitioner and should he transferred to a hospital. Once the diagnosis of a urinary infection is made, or confirmed, the next step is to decide how much responsibility the general practitioner is going to take. Clearly the general practitioner has three tasks. (1) Suspect and diagnose the disease, (2) treat the acute symptoms conservatively and impress on the patient the need for taking things seriously and undergoing further investigations and treatment, (3) decide which patients he would pass on to a hospital for further diagnosis and treatment.

I have alredy talked briefly on diagnosis and the importance of repeated urine examination. If the symptoms are acute, whether it is the first attack of infection or only an exacerbation of chronic infection, the treatment is bed rest, plenty of fluids, changing the reaction of urine and administration of drugs.

Drugs : The market is full and what was new yesterday but obsolete today. Irrespective of these trends, I have a working rule which we follow. Some elasticity is permissible and the choice of the drug depends on the case, with reference to the severity of infection personal idiosyncracies, cost and naturally the physician's own personal whims. Thus drugs may be divided into two groups : (1) those that can be given empirically without a bacteriological diagnosis and (2) those that are given based on the culture and sensitivity report.

(1) **Empirically given drugs :** These are given for immediate treatment before laboratory reports are available. **Sulphonamides :** These are easily available, cheap, non toxic and can produce a higher urinary concentration. We like three brands in this group. (a) **Gantracin** (Sulphafurazol) – solubility is high. 2 G. followed by 1 G. Q6H are given till temperature is normal for three days and urine is devoid of bacteria on three occasions. (b) **Elkosin** – (Sulphasomidine) – more soluble than Gantricin. Hence 1 G. Q6H is enough. (c) **Urologocil** (Sulphamethezole) is the only sulpha compound primarily meant for the urinary tract as indicated by the name itself. It has a low degree of acetylation – hence no crystalluria (tab. are 1 G. (not ·5 G. as other sulpha) and hence two tablets three times a day are enough. (d) **Lederkyn - Medical - Orisul :** This is excreted slowly and the blood level is maintained consequently. Thus the dose in small (·5 G.) two tablets start and then 1 tab. daily.

I hesitate to use **Long acting** sulphas in very acute infections because the possible unpredictability of action, and sulpha drugs in any case are avoided by us if the urinary output is low or suspicion of renal damage exists.

Use of **Mandelamine** is based on an old idea of Ketogenic diet and excretion of the urinary antiseptic Boxybutric acid in the urine. The diet was difficult to take. Mandelic acid has been found equally good. Mandelamine is a combination of **Mandelic Acid + Methanamine** (Hexamine). Mandelic acid is excreted in the urine as such but methanamine is broken down (in the presence of acid urine) to formaldelyde Acid urine (pH less than 6) is essential especially for tackling a urea - splitter P. vulgaris. Hence Ammon. chloride is used for 24 - 36 hours - .5 G. four times a day. But Mandelamine acts as its own acidifier. Mandelamine is not toxic, bacterial resistence does not occur, and it is good for almost indefinite use for months on a maintenance does of one tablet three times a day (.5 - 1 G. tab.). But Mandelamine is unsatisfactory for immediate use in severe infections. It is to be avoided also when renal damage is suspected.

Drugs to be used after preliminary bacteriological and sensitivity tests. Antibiotics like Penicillin, Streptomycin, tetracyclines, (achromycin - aureomcin - terramycin) Chloromycetin, Polymixin and Erythromycin and the wide-spectrum urinary antiseptic like nitrofurantoin (Furadantin) are better used after bacteriological tests are done. However being aware that the latter facilities may be available only to a restricted number of practitioners in a city with equipped laboratories, I do suggest that in severe infections tetracyclines like Achromycin and Terramycin may be used to control the organisms. The toxic effects, cost and availability are too well known to a general practitioner. Penicillin has restricted use in infections caused by B. coli and B. pyocyaneus and staphylococci are becoming more resistent. The wide spectrum antibiotics are particularly avoided if there is a suspicion of the infection being recurrent, because there may be a cause like calculus which has to be removed and administration of wide spectrum antibiotics only delays detection of the cause and encourages the patient to seek symptomatic relief only.

Streptomycin is a common drug but it has its toxic effects if used for a long time, and resistent strains develop easily. However it is a good drug to be used as a one chance drug - 1 G. two or three times a day for three days. If there is no improvement, it is not worth continuing. **Polymixin**, a narrow spectrum antibiotic, is not easily available. It is the only drug that can be used against Pseudomonas the most resistent bacteria in urology. **Erytheromycin** is an ideal drug where Penicillin is useless, especially in Staphylococcal infections. Again it is not easily available and costly. **Furadantin** is a wide spectrum urinary antiseptic, not related to Sulphonamides or antibiotics. Urinary excretion of the drug is high, blood concentration is low. It is nontoxic and no blood dyscrasis occur. Flora of the large

bowel is not upset. Crystalluria is very rare. Resistance is rare and cross-resistance is unheard of; i. e. another drug can be given along with it or afterwards.

In other words, it has all good qualities but (1) a tablet costs 6 annas, (2) gastric irritation is common, (3) it should not be used in renal damage, (4) long term use is discouraged. It is an excellent drug for both gram negative and gram positive bacteria. B. proteus is amenable to Furadantin. Dose - 50 mg. (1/10th of Sulpha drug dose). 2 tab. - three or four times on a full stomach prevents gastric upset.

Mixed Drug Therapy : At certain times more than one drug or multiple drug therapy may be indicated - the indications are: (1) The infective organism is not known and facilities are not available for typing. (2) Mixed organisms are present. (3) When patient is sensitive to large doses of any one drug. (4) Infection by B. proteus, B. pyocyaneus and Strepfaecalis.

Thus you find that drug therapy for urinary infection, as it is elsewhere, has gone through three eras for better or for worse. Thus first there was the era of narrow spectrum antibiotics (Penicillin - Streptomycin). Then came the broad spectrum (Chloromycetin + Tetracyclin). Third there seems to be the mixed or combined spectrum antibiotic era.

Further Management after the Acute Symptoms are Controlled : Most acute symptoms settle down with antibiotics. However (1) if the symptoms continue, (2) if symptoms recur and (3) if renal function damage is suspected it is advisable that the patient is referred to a hospital as the further care is likely to be difficult in ordinary private practice. Two recurrent attacks or persistence of symptoms for more than two weeks seems to be a good reason for reference to a hospital. These patients will need further tests (bacteriological) and probably the renal function will have to be accurately ascertained. Plain x-rays may reveal calculi, IVP may show other obstructive lesions; cystoscopy and retrograde catheterization exclude lower urinary tract obstructions. As long as the cause of chronicity persists the infection will persist indefinitely and the patient rides on a time-bomb.

High Lights with Reference to urinary tract infections : (1) Urinary tract infections are much more common than is usually realised in clinical practice. The incidence is particularly high in (a) children, (b) pregnant women, (c) diabetics, (d) old men.

(2) Chronicity is a particular complication and erradication of infection is impossible unless and existing cause (more often obstruction) is eliminated.

(3) Diagnosis of acute infection is not usually difficult but chronic infections are frequently undiagnosed till too late a stage is reached with irreversible renal

damage. This is because symptoms and signs referrable to the urinary tract are often absent.

(4) Diagnosis depends on suspicion strengthened by finding of more than 10 – 12 pus cells in urine in a high power field.

(5) Confirmation of diagnosis involves radiological and endoscopic tests.

(6) Complications of chronic urinary tract infections involving the kidney are, hypertension, chronic renal failure and death due to renal failure.

(7) Treatment consists of control of acute sumptoms by copious fluid intake, bed rest and drugs. When symptoms do not subside, or if they recur, a search for a cause must be made and an institution is a more satisfactory place than the general practitioner's clinic.

* * * * *

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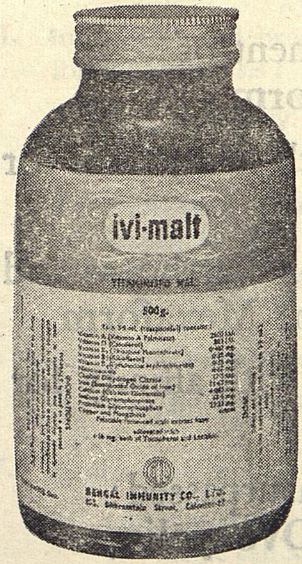

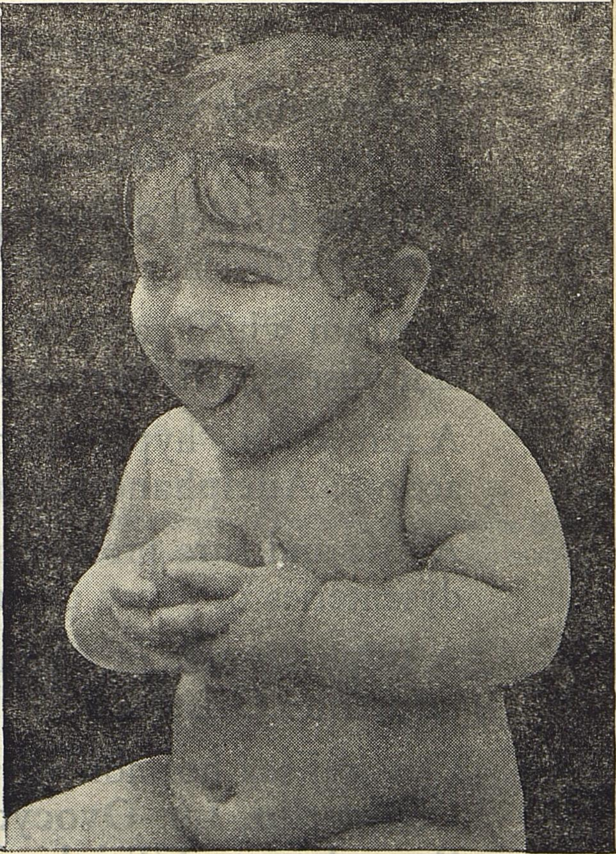

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Management of Anaemia in General Practice

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Anaemia is a recognised symptom. The term anaemia as it is generally used in clinical medicine, refers to a reduction below normal in the number of red corpuscles per c. mm., the quantity of Hb. and the volume of packed red cells in 100 ml. of blood. Treatment can be placed on a more rational basis if the practitioner has some simple and clear conception of the etiological classification of anaemias :

I. **Loss of Blood.**

A. Acute post haemorragic anaemia.

B. Chronic post haemorrhagic anaemia.

II. **Excessive destruction of red corpuscles resulting from**

A. Extracorpuscular causes.

B. Intracorpuscular defects, congenital and acquired.

III. **Impaired blood production** resulting from deficiency of substances essential for erythropoiesis :

A. Iron deficiency.
Experimentally also copper and cobalt deficiencies.

B. Deficiency of various B vitamins.
Clinically B12 and folic acid deficiencies (pernicious anaemia and related macrocytic, megaloblastic anaemias) Pyridoxine - responsive anaemia.

C. Protein deficiency.

D. Possibly ascorbic acid deficiency.

IV. **Faulty construction of red corpuscles.**

A. Congenital and hereditary.

1. Sickle cell anaemia and related disorders.
2. Thalassemia (cooley's anaemia)
3. Congenital haemolytic diseases e. g. Hereditary spherocytosis or congenital haemolytic jaundice.

B. Acquired

1. Anaemia associated with infection.
2. Anaemia associated with various chronic diseases (renal etc.)
3. Anaemia in plumbism; following irradiation, in drug sensitivity (aplastic anaemia)
4. Myelophthisic anaemia (leukaemia, hodgkin's disease myelofibrosis, malignancy)
5. Anaemia in myxoedema and other endocrine deficiencies.
6. Anaemia associated with splenic disorders : Hyperplenism.

The symptoms of all types of anaemia are dependent mainly on the diminished oxygen carrying power of the blood and their severity varies according to the degree of anaemia and the rapidity with which it is produced. Similarly no single sign by itself is diagnostic and it is unwise to rely on the skin colour especially of exposed surfaces for diagnosis of the type or degree of the anaemia present

Hence no short cut to diagnosis exists. A careful history may sometimes prove to be extremely useful. For example :

Age : Iron deficiency anaemia of moderate degree is present in most infants. It may become very severe especially in twins and premature babies who come into the world with a small store of iron or when suckling is protracted for longer periods or after intercurrent injection.

Sex : The commonest type of anaemia is iron deficiency anaemia occurring typically in women between the ages of 20–50. The reasons for its appearance in women are (i) Loss of iron in menstruation and increased nutritional requirements during pregnancy and lactation (ii) Insufficient intake of iron in diet (iii) Achlorhydria which diminishes the absorption of iron.

The history of irradiation or drug sensitivity may suggest aplastic anaemia.

The history of chronic diarrhoea and pigmentation of nails and hands will suggest vitamin B12 deficiency leading to megaloblastic type of anaemia.

The presence of koilonychia suggests iron deficiency anaemia. The nails are brittle and dry at first and later on spoon-shaped nails.

The presence of haemorrhagic purpura may be due to aplastic anaemia or leukaemia.

If splenomegaly and jaundice are present and urine is coloured, haemolytic anaemia should be considered.

In all cases of anaemia and whenever anaemia is suspected, laboratory diagnosis is absolutely essential in order to find out the degree of anaemia and also to establish the type. The following tests can be performed easily in general practice:

1. Hb. estimation by the acid haematin method using Helige type of haemoglobinometer.

2. Blood film – Blood picture should be carefully studied in every case of anaemia.

   (a) Normocytic – No change in the size or Hb. content of the red blood cells.

   (b) Macrocytic – Red cells are larger than normal. This is due to the greater decrease in the number of cells than Hb.

   (c) Microcytic – Red cells are smaller than normal.

   (d) Hypochromic Microcytic Anaemia – If iron is lacking then each red cell tends to carry a smaller amount of Hb. than usual and in stained films, these red cells will show a narrow rim of pink on the periphery while the centre is colourless (Hypochromia). The red cells also tend to be smaller (Microcyte).

   (e) Haemolytic Anaemia – The classical picture consists of marked variation in the size of the red cells and signs of red cell regeneration. Reticulocyte count definitely raised due to rapid red cell regeneration. Nucleated red cells are commonly present and are Normoblastic in type.

   (f) Reticulocyte count – If the deficiency has been supplied in a case of anaemia and the bone marrow is healthy, there should be a rapid rise in the reticulocyte count. The rise starts within 2 – 10 days and reaches its peak in 3 – 10 days. It then falls while the RBC count begins to rise to normal level.

3. Bone Marrow – In certain types of anaemia in which the diagnosis is obscure, examination of the peripheral blood film must be supplemented by examination of the bone marrow obtained by sternal puncture.

The treatment of anaemia involves primarily the eradication of the cause of the anaemia if that is possible, e. g. injection, drugs etc. When the anaemia is due to deficiency of a substance essential for erythropoiesis, e. g. vitamin B12, folic acid, iron etc. administration of the agent which is lacking will be followed by a very gratifying therapeutic response.

Iron treatment - It is now generally agreed that

1. Iron is absorbed in the ferrous state from duodenum and jejunum and that ascorbic acid facilitates absorption.

2. Ferrous salts are more efficacious than similar doses of ferric salts.

3. Parenteral oral therapy is seldom necessary.

Oral therapy - Provided that inhibitary factors such as sepsis, toxaemia or haemorrhage are absent a rise of 1% per day in the Hb. level should result from efficient iron therapy. If there is associated intestinal disease, it takes longer time.

Preparations therapeutically equivalent.

1. Iron and ammonium citrate 30 gr. T. D. S. in a fluid mixt.

2. Ferrous sulphate 3 gr. in tablets three times a day after food.

3. Ferrous gluconate 5 gr. } in tablets three times a day after food.
or Ferrous succinate 5 gr.
or Ferrous fumarate 3 gr.

Tablets are obviously more convenient than fluid mixt. as does not blacken the teeth and tongue. If dysphagia is present. fluid mixtures are preferable. In a well controlled study ferrous gluconate, ferrous succinate and ferrous calcium citrate were not found to possess any advantage over ferrous sulphate.

Duration of iron therapy — The period that will elapse before normal blood count is attained will vary from one to three months individual cases depending upon the initial blood level. Treatment should be continued for one month thereafter to replete stores.

Parenteral iron therapy — Parenteral iron therapy should not be used if oral administration is possible. There are few legitimate indications for parenteral therapy. These are

1. Patients with iron deficiency anaemia who are unable to tolerate iron by mouth e. g. persistent vomiting in pregnancy, disordered gastrointestinal function after gastrectomy.

2. Inability to absorb adequate amounts of iron by mouth, e. g. steatorrhoea. Such cases are rare.

3. Need for rapid restoration of normal haemoglobin level as for example anaemia is first discovered in the third trimester of pregnancy.

Intravenous Iron — Ferrivenin — Benzer.
Neo Ferrum — Crookes.

Each 5 cc. of such preparations of saccharated oxide of iron contains 100 mg. of elemental iron and this amount may be expected to increase the Hb. level by approximately 4%. It is usual to give 2 ml. on the first day and thereafter 5 cc. every third day until enough has been given to correct the initial deficiency of Hb. Thereafter 4—5 injections are given to replenish body stores of iron. The total dosage of iron given in a course of injections should not exceed 1·5 gm.

An intramuscular preparation of iron is available as an iron dextran complex (IMFERUN) Iron-dextran was found to be markedly arcogenic in the rat.

In cases of ankylostomiasis, the patient may not suffer from iron deficiency anaemia if the patient is having good diet. In any case, treatment to eradicate hookworm infection should be given.

Treatment of Megaloblastic Anaemia:

Pernicious anaemia is practically not seen in India. But megaloblastic anaemia may be due to either vitamin B12 or folic acid deficiency.

Megaloblastic anaemia due to disorder of the gastro-intestinal tract may be due to —

1. When there is impaired absorption of vitamin B12.
2. When the main factor is decreased availability to the body of vitamin B12 e. g. bacterial flora.
3. Functional defect in the mucosa of small intestine e. g. sprue syndrome.

In Cases of sprue syndrome there is probably deficiency of vitamins or folic acid and vitamin B12 or both.

In cases of megaloblastic anaemia of pregnancy, the anaemias are successfully treated by the administration of folic acid.

Megaloblastic anaemia of infancy may be either due to folic acid or vitamin B12 deficiency.

Megaloblastic anaemia due to convulsant drugs like Phenytorn pirimidone should be treated by folic acid.

Vitamin B12 should be given in the dosage of 100 ug. per week. Only after the anaemia has been successfully treated and stores repleted, no maintenance treatment is necessary if the patient is on good diet. Maintenance treatment is only

necessary if there is intrinsic factor deficiency arising from loss or damage to gastric mucosa.

Folic acid — 5 mg. daily is usually sufficient.

Again no maintenance therapy is needed.

Nicotinic acid or Citrovorum factor has got a similar action as folic acid.

Cases which decrease the extent of blood destruction :

Adrenocorticosteroids : They are effective in suppressing the formation and in minimising the deleterious consequences in antigen — antibody union at cell surfaces. It is therefore useful in acquired haemolytic anaemia. Initial doses as high as 30 mg. daily of prednisone is necessary to control the haemolytic state but satisfactory maintenance can often be achieved by as little as 5–10 mg. O. D. and sometimes treatment can be discontinued after a variable period.

Splenectomy :

1. It is the only means by which the anaemia of hereditary spherocytosis can be relieved permanently.
2. This operation has also a place in purpura·haemorrhagica..
3. The rationale of splenectomy in idiopathic acquired haemolytic anaemia is based on the belief that the spleen may be not only the major site of red-cell destruction but also the organ mainly responsible for the elaboration of auto-antibodies.

Measures which restore blood volume and temporarily relieve anaemia :

As an emergency measure to restore the blood volume following acute haemorrhage, blood transfusion has no equal.

If a case of anaemia has signs of congestive cardiac failure e. g. Triple Rhythm, venous engorgement and oedema, exchange transfusion should be done.

In cases of iron or megaloblastic anaemia specially megaloblastic where the PCV is 10, one has to be careful and blood transfusion should be given if necessary.

In the acute case the haemolytic process may be so severe, that the patient may become acutely shocked within a few hours. The dramatic clinical improvement that often follows blood transfusion probably depends as much on the dilution of the lysin of the patient's plasma by the normal transfused plasma as on the addition of the donor's red blood corpuscles to the patient's blood.

In cases of aplastic anaemia, blood transfusion is all that is available to support life.

Treatment of Haemoglobinopathies e. g. Cooley's Anaemia, Sickle cell anaemia and haemoglobin E. etc.

The hereditary haemoglobinopathies include a wide range of haematological disorders in which as a result of genetic mutation, the red cells contain a proportion of one or more abnormal haemoglobins.

Blood transfusion will be required in all severe cases. Splenectomy is seldom indicated as it does not alter course of the disease. Occasionally when the spleen is large and a symptomatic haemolytic element in addition to the racial abnormality of the erythrocytes, splenectomy may be of value in reducing the frequency with which blood transfusions are required.

General Measures : Ideally if the Hb. level is less than 40%, the patient should be confined to bed except for purposes of toilet etc.

Gastrointestinal symptoms should be treated as they arise. Constipation is common in anaemic patients.

Respiratory and circulatory symptoms will be relieved as the anaemia improves. If there is evidence of C. H. F. digitalis may be necessary.

Normally blood building materials are obtained in food and then a diet rich in these remains the most important adjunct in the treatment of anaemia.

Shot gun remedies : A deplorable factor is the shot gun remedies, advertised even by pharmaceutical houses of good repute. They are prepared with the attitude that some of these constituents of these mixtures may be beneficial while the remainder will certainly do no harm. These mixtures containing iron, copper Manganese, Liver, gastric substances and all the vitamins known are recommended with imposing list of references. Such mixtures are used sometimes even without a blood examination in the hope that something in the remedy will meet a therapeutic need. The practice is unwise because even if one of the constituents of the remedy is needed, the amount of this constituent is too small to be effective.

Pros and Cons of Shotgun Anti Anaemic Therapy :

Advantages — 1. No diagnosis required.

2. Neurasthenics may improve temporarily.

Disadvantages :

1. Underlying factor in the pathogenesis of anaemia may be overlooked and opportunity for early definitive therapy may be missed.
2. In recommended dosage often does not supply enough of the substance which may be required.
3. Wasteful (a) contains many substances not needed for treatment of patients (b) cost of therapeutic agent multiplied 10—20 fold.
4. No confirmation of diagnosis by a simple specific therapeutic agent.

* * * * *

She was and in my mind's eye, she still is, a thing of Quivering Beauty. Quivering ? Undeniably. Beautiful ? To me unutterably. She was my first motor car !

* * * * *

Some musicians are like musical glass. To produce their finest tones you must keep them wet.

SPOT DIAGNOSIS

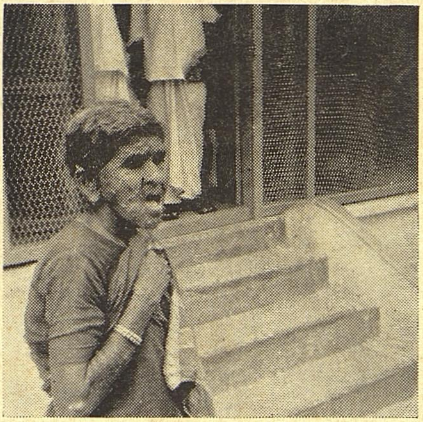

Fig. 1

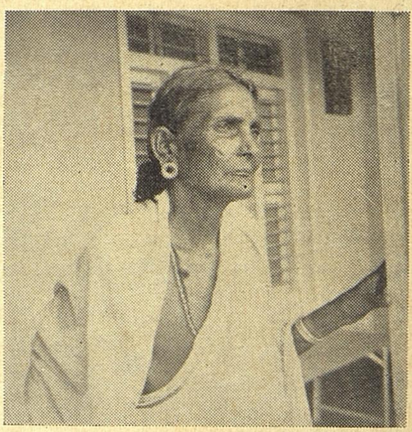

Fig. 2

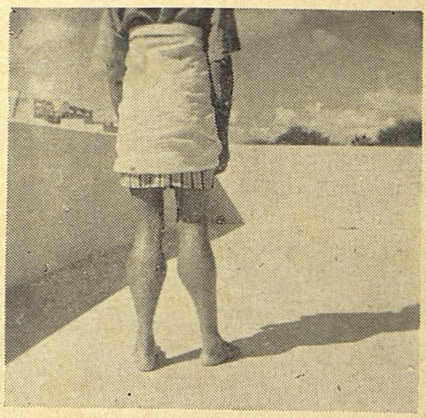

Fig. 3 (a)

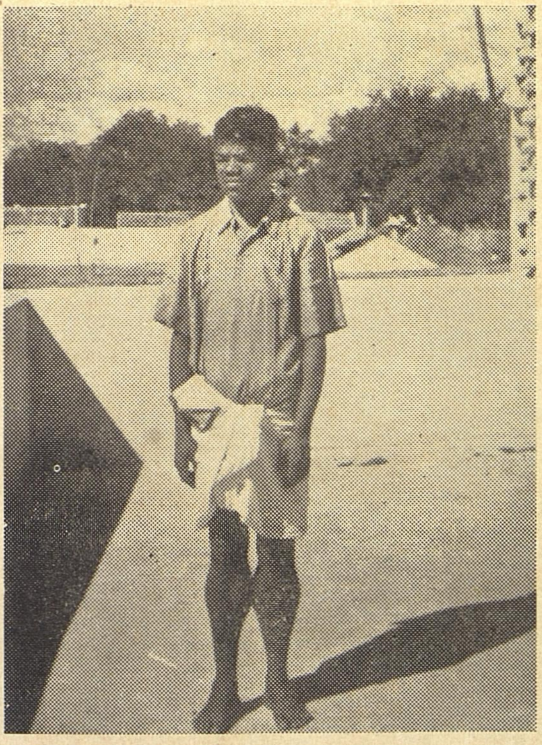

Fig. 3 (b)

Fig. 4

Cases of and Photo by

DR. D. G. RAMASWAMY, L.I.M., Dharmapuri-1.

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Concept of Life

Dr. S. Srinivasan, L. I. M.,
Medical Officer, Municipal Dispensary, Annadhanapatty, Salem.

The past is not a dead material but a living force for new discoveries. The present is nothing but the out-come of the past. Differences in the theories and methods of approach are inevitable when there is a search for the truth. Scientific truths do not and cannot vary from nation to nation and from time to time. The laws of nature are fixed and there is always a fixed pattern. A true scientist will accept truth and will be universal in out-look.

Modern science has come to realise with greater conviction that nature by its miniaturisation, by its immeasurably small units, created the boundless diversity. A series of brilliant discoveries have brought modern medicine to its prestine glory. Scientists began to ask the basic questions about life and growth. The search took many routes. The work was so vast that soon many branches sprung up to specialise in the different phases of it. Among them were biochemistry, biophysics, genetics, cytology, embrayology, Biology and physiology. The search had to turn at this point from the visible to the invisible, from the tangible to the intangibly small — that could be detected only with the help of the microscope and that too the electronic one. The view of living things was nearly revolutionised in a very few years.

Increasing knowledge showed unexpected simplicity and order in the hidden secrets of living things. It rested upon Lovoiser's proving that breathing is combustion, upon Wohler's showing that the secretions of the body are compounds makable by man, upon Bichat's finding of the tissues, upon Pastuer's proof that life is created spontaniously, upon Ficher's demonstration that proteins are chains of matter, to reveal that wholly unsuspected world lay inside a cell. A new world was discovered in 1950. This unheralded new world was a miniature one. No banners were published in papers or broadcasts made. It was the innerworld of the cell. Observation and study proved that in every cell of every living thing lay a part of the past. The cells were subjected to artificial radiation and its effects studied. It was found that most mutations changed involving substitution and rearrangement in the species. The conclusion is, natural irradiation present everywhere in nature – most of it of terrestrial origin – must be producing some mutations in the living things on earth. Thus the cause of how new characters and changes in the species evolved, in course of time, could be comprehended.

It was found that the nucleus, of the parent cell, handed down to the offspring was the veritable link that had been passed along from generation to

generation since the beginning of life. A chemical analysis of the nuclear stuff was undertaken and the result was that the nucleus was found to contain nuclein or nucleic acid and other protiens. The nuclein was separated and subjected to further study and experimentation. It was found that nuclein was a molecule with a long thread - like structure. When the thread was broken, it did not dissolve into its component elements but into sub-units, which were held together by Phosporic - acid bonds. This complex material was given the name of Deoxyribo Nucleic Acid. Thereafter it was called as DNA. This DNA was concentrated only in the nucleus and in the nucleus alone - unless it was in transit from one cell to another. It was found that the amount of DNA in a cell of one species varied from that of another, while it was constant in all animals of the same species. It began to look as though the DNA behaved as a hereditary material or it formed part of the stuff of which the heriditary factors were made in the chromosomes. The conclusion was drawn. A set of factors in chromosome which are able to influence the activities of cells, so that certain eye pigment and certain blood type or other hereditary traits, are produced. Keen interest evinced by scientists in the study of the nucleus soon isolated another nuclic acid. The Ribo Nucleic Acid - RNA - was found more in the cytoplasm, often clustered round the nuclear membrane. DNA was found to be in an exact and unchanging amount in every cell, while the RNA was varying in its distribution. It was an accident that led Prof. Hoglaud of the Harward University to the discovery that amino - acids attach to RNA before they are linked together to form proteins. Crick - the famous theoritical chemist by pure reasoning and theorism arrived at the same conclusion. Here was life's starting point. All that the individual was to become and all that had gone before him, lay in the tiny coils of DNA and RNA. Further breaking up of the molecules of DNA and RNA will help us to know the vital force, the master control, behind form and order of material. As such the vital force is termed rather vaguely in the modern concept of life. It is a force that cannot be brought into line with the physical and chemical forces that operate in the inorganic field.

The ancient scientists of India, the Rishis, as they were called, recognised that there is a common organic basis on which the constitution of the animals and vegetables depended That is to say, the same laws that regulate the vegetable life are found to be operating in animal life also. The similarity and the individual diversity engaged their attention. The ancient scientists of our country based their Physiology on meta - Physics, which not only provides the key to understand the physics and bio-chemistry, which form the ground work of Physiology, but also explains the creation of the entire Universe. There is a common belief that the ancients followed the path of Tradition and did not care to reason out. But the real truth is quite the opposite. The Upanishads and the Geetha are really a brilliant and daring revolt against the established dogmas and traditions in the religious and social fields.

The ancient thinkers of our land observed in the first place that there was nothing constant, abiding, fixed and imperishable in the Phenomenal aspect of the Universe and nature. The word Phenomenal means "that which appears to the senses - which is seen, felt, heard, smelled, tasted or sensed in any other way." They observed that matter is a series of changing, shifting forms and events, nothing being permanent or abiding. The next step was to recognise that under this changing and shifting manifestations of the Phenomenal world, there must be some thing real and substantial - something permanent. The fundamental reasoning for arriving at this conclusion was that "Reality and truth can never change and so the changing world and matter can never be called as real and true." When it is thus proved that whatever is found in this phenominal world is changing and not permanent, they called this unreal or only as the manifestation of truth and not as truth itself. The second question was "If the matter in the phenomenal world is only a manifestation of some other thing, what is that something?" It is an accepted fact that some thing can never be produced from nothing or in other words no thing can be produced from nothing. So the early thinkers of our land came to the conclusion that there was some thing real, unchangeable and permanent which manifested in the various objects of the phenomenal world. This they termed as the "TATH" or "BRAHMAN."

Logical reasoning and theoritical interest made them to think and ask questions like, "What is there that will still be present when the phenominal Universe disappears - when these manifestations dissolve and disintegerate?" The answer is easy to comprehend, and that is "Infinite Essential Space" wherein these objects were present. Further enquiry made them believe that this space must contain some thing from which only manifestations are possible. As such the "I E S" was not only an infinite capacity for extending objects but something more - an Infinite Bare Abstract Subjectivity. They also maintained that activity arises from motion and as such drew the conclusion that "Absolute Essential Motion" was the second aspect of "TATH". They regarded the Absolute Essential Motion as of such infinite degree of power and rate of vibration that to all human thought and perception it was a motionless motion. Thus the qualities of "TATH" were arrived at. From here the Vedantha carried on its study about "BRAHMAN", and turned into a religious and spiritual philosophy.

Kapila, the great exponant of the Sankya school of thought, accepted these principles and diverted from here to study the Universe from another angle and originated the scientific-philosophy. Some critics of Kapila's theories called them as athestic practically materialistic, contending that he ignores the existence of "TATH" and postulates a dual eternal thing. But it is not so. Kapila has not denied the theory of "TATH" nor has he condemned it anywhere in his works. In other words it can be assumed that he merely accepted the age old doctrine

of "Tath" and began to proceed with its manifestations in the phenomenal Universe.

The basic proposition in the Sankya reasoning is that there exists in the Universe two active principles, the inter action of which results in the manifestation of objects, — including those of life. They are the primal forms of the two great principles of phenomenal activity. They are the "PURUSHA" and the "PRAKRITHI." Purusha according to Kapila, is pure spirit or substantial, transidental intelligence, or in other words "Infinite Bare Abstract Subjectivity". It is not affected by any emotion or sensation. Prakrithi, according to Kapila is the Cosmic Primodial Energy — The great motionless motion. According to the great Kapila the Prakrithi is not composed of ultimate atoms (Paramanus) — as some others like the Vaisashekas thought. He was of opinion that Prakrithi was atomless and the atoms were centres of influence, acitivity caused by the embodiment of the Purusha in the Prakrithi. Prakrithi is described as active but insentient and aimless until it is motivated by the Purusha. The "Avyaktha" i. e., the non-manifest nature is in a state of equilibrium or a state of homogeneous continum. This continum is described as the equipoised state of the "Three Gunas". These Gunas or forces are innate in the Prakrithi. Consequent to the reaction set up by the getting together of the Purusha and Prakrithi, the equilibrium is upset. The three forces are described as three gunas — Sathwa, Rajas, and Thamas. They can be explained for the purpose of understanding as Forces of Stable existence, Force of attraction, and Force of Replusion. Thus Nature (Prakrithi) motivated by Life (Purusha) brings a breaking up of the homogenity of the three forces (Gunas) and manifests into the variety of Creation. Even in the atomic state, as a result of an imbalance in the Sathwa — Rajas — Thamas, there is a mutual attraction or repulsion, which action and reaction account for the physical phenomena. Thus the Prakrithi develops the ' Determinative Consciousness" (Buddhi) i. e., the principle of Differentiation manifests. Consequent to the development of the "Buddhi", Ego or self-consciouness emerges. This is called as "Ahankara". This Ahankara in its turn leads to the Pancha-Thanmathras and Pancha Boothas. That is we arrive at the formation of the basic qualities and elements that are cognisable. The five senses of perception and the relative five sense organs, follow suit. Finally comes the Manas. The Sankya conception of the Manas is very similar to the western conception of the brain in the phases of its functioning process.

Thus all physical substances are reduced to five categories or five basic elements in the pre-atomic stage. Each one of this basic element or bootha is attributed with certain basic and specific qualities. The relative proportion and method of combination of these basic elements determined the nature of a particular substance. As for example, an Apya-Dravya or an Agneya-Dravya means that the dravyam or substance is having Ap or Agni Bootha in a higher percentage,

compared with the other boothas. In the biological world further development and differentiation produced the Pancha-Karmendriyas and the Pancha-Gnanendriyas as well as the Manas. Thus, the higher the development of these factors, the higher was the being in the biological order — Man toping the list.

The biological world is different from the simple physical division of matter. It shows an organised activity. This activity can be divided into three groups.

The organisation of the fluid balance of the body.

The organisation of the Thermal balance of the body.

The organisation of the Vital balance of the body.

So, the physical body is co-ordinated into the biological organisation to evolve a specific biological formula. The five basic elements or boothas by a combination of two of them evolved into these three factors, Prithvi and App combined into Kapha, while Agni formed the pittha and Vayu combined with Akasa to form Vatha. A careful study of the qualities of Vatha, Pitha and Kapha — the three Doshas — will prove that each one of them are responsible for the organisation of the Vital, the Thermal and the Fluid balances of the body, respectively. The heriditary traits of the species are dependent upon the Doshas in the physical aspect and the Gunas in the mental aspect. Thus the constitution of a man is described as a Vatha-Prakrithi or a Pitha or Kapha-Prikrithi. The mental aspect of the species is also Sathwic, Rajasic or Thamasic according to the temperament of the parent. Thus for all practical purposes it will be possible to find out the natural state of an object both in the physical and the mental planes by a careful observation of the individual and his environment as a whole. Further study by Charaka, Susrutha as well as a number of famous physicians of yore, have clearly brought to light the influence of Manas over the activities of the Doshas. Thus the diseased Manas and the diseased Doshas are dealt with in detail. All the pathological manifestations are carefully and exhaustively detailed. The body is also anatomically divided according to the various tissues. The preponderance of one Dosha or other in the tissues (Dathoos) and their effect have also been studied in detail.

The ancient scientists of our country thought that for the normal up-keep of the body there should be not only a mind dominated by Sathwa, but also a body wherein the Doshas are in a state of equilibrium. They also stressed the importance of the normal state of the tissues as well as the malas or waste-products. They considered the malas also as essential for the normal functioning of the body. Brilliantly composed verses not only explain the signs and symptoms of the over - activity or under - activity of the Doshas, the increase or the decrease of the growing tissues as well as the waste - products.

We have at last arrived at a stage in the progress of modern medicine where-from a study of the various theories of the ancient scientists of our country will throw more positive light towards understanding the mysteries of life. It is for our learned scientists and meta – physicians to take up the huge task of aiming at a synthesis of the basic concepts of life.

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* * * * *

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Ghridrasee

A Case Report

Dr. T. P. Rajagopal, H. P. I. M.
Research Officer, Ayurveda, Kilpauk Medical College, Madras-10.

Case sheet

1

Name	: Ramaswami Naidu	Age:	38
Caste	: Naidu (Hindu)	Sex:	Male
Occupation	: Process server, Munsif 's Court, Dindivanam.		
Address	: No. 75, Saravana Perumal Koil Street, Purasawalkam, Madras.		

Complaint :

Pain of a piercing nature at the heel, shooting right from the gluteal region and extending along the back at thigh. Inability to rest on that heel and therefore limping.

Duration :

For about four years

Previous history :

He has been suffering from a cronic constipation. No other important and noteworthy ailment, he has suffered from.

Signs and symptoms :

Pain of piercing and shooting nature with a sense of burning on the back of the right leg along the course of the Sciatic nerve extending upto the heel. Whenever the patient, by accident threw weight on his heel, he behaved as though a red hot iron was kept on the heel. There was warmth at the heel but the whole leg was fairly cold. It was also tender at the lower and medialquadrant of the gluteal region. There were

occasional cramps of the muscles (Pindikodhveshtanam) and painful muscular contractions. The deep reflexes were exaggerated. There was also atrophy of the Tibial muscles (Sosham). The general health of the patient was good. Had a fairly good appetite Temperature normal.

Treatment adopted :

External snehanam with sahacharadi thailam to the whole of the affected leg and thapaswedam-morning and evening.

Indukantham gritham 2 tholas, 1 thola B. D. followed by warm milk.

Anuvasana Vasthi with kshirabala 4 ozs. after food.

The above treatment was done for three days and there was a tendency for the cessasion of the continuous pain. On the third day he also had one free motion and immediately after the motion there was a transient period of painlessness. From the fourth day 'upanahaswedam' was done with brahmmeesamoolam, fried a little with kshirabala oil. Rasvanadi Kashayam 6 ozs. B D. was also given.

For a few days external snehanam with pinda thailam was tried. This seemed to give a better relief. The use of pravanjanavimardhana thailam suggested itself to be useful, from the relief that he got from pinda thailam. From the next day I instituted the following course of treatment:

1. External snehanam with pravanjanavimardhana thailam
2. Upanaha swedam with Brahmee leaves
3. Dasamoola kashayam ozs 4, Nirgundi kashayam ozs. 2, Hingu (fried) 1 thola Ft. Mist. ozs 6, ozs. 2 T. D.
4. Yapana Vasthi with Dasamoola Kashayam 10 Nirgundi Kashayam ½ O Milk ½ O Honey ozs 4. Seindavam 2 tolas, Nirgundi thailam ozs 4, Lasuna satha puspha, rasna, Nirgundi patharam, each ½ tola for kalkam. This vasthi was given on alternative days for a couple of weeks and then was repeated once in three days.

There was remarkable change in the very posture of the patient. He was able to stand fairly erect and throwing some pressure on the

affected heel. Thus there was an alround amelioration of signs and symptoms. But there was still a dull pain at the gluteal region, the atrophy, in the calf muscles and the state of dryness of the whole leg. His motions were good even on those days when the vasthi was not given. But he had to strain for a motion and during that strain he felt the pain in the leg.

Along with the Nirgundiadi vasthi he was given bashpaswedam with vathakara leaves such as Nirgundi, Arkam, Thintrini, Inderavalli leaves for seven days. He was also given Indukantham gritham. The bashpaswedam was continued and the vasthi was stopped. The bashpaswedam had a very good effect in relieving the pain. For all appearances there was complete relief of symptoms. But there was some feeling of a dull pain and gurgling in the intestines and also nausea to some extent. The next day he was given an oz. of dathri oil and he had four good motions, and all the symtoms had disappeared.

Later on he was given a marupathiam treatment of external snehanam for a fortnight.

Explanations are not necessary about the various stages of the treatment in the eradication of the disease. The use of Nirgundi in the vasthi prayogam is an interesting and noteworthy thing.

With the other subsidiary methods of treatments it was the vasthi that was responsible in the cure of the disease and with Nirgundi prayogam at that.

Result:

Cured and discharged at 4 P. M. on 28—6—46.

Laboratory Findings:

Lymphosytes in excess.

" This is a case of Ghridrasee "

SPOT DIAGNOSIS

Dr. D. G. RAMASWAMY, L. I. M.
DHARMAPURI - 1.

I. Bilateral Dislocation — Jaw:

The usual cause of dislocation of the mandible is said to be a blow on the chin when the mouth is partly open. Excessive yawning is a main cause. The author has come across an interesting cause of sudden wide opening of the mouth to have a hurried gulp of food by an hungry peasant. Recurrent Dislocation is not uncommon.

When the dislocation is bilateral, the projecting jaw deformity is so evident as to attract attention. The mouth is open and fixed. A hollow is felt immediately in front of the tragus

Incidentally, this patient has generalised Neurofibromatosis.

2. Rodent Ulcer:

This is a Basal Celled Carcinoma (B. C C.), usually occuring above the imaginary line joining the corner of the mouth to the tip of the lobe of the ear. Its outline is circular and the edge raised. A rodent ulcer is very chronic, progressing steadily. It starts with a history of a spot that does not heal. The spot becomes an ulcer in course of time, eats its way into the tissues including bone — Rodent Ulcer: so called because it gnaws the tissues like a cat.

3 (a) & 3 (b) Pseudohypertrophic Muscular Dystrophy:

Enlargement of the calf muscles — gastrocnemius and Soleus — is a striking feature. Children with this disease are normal at birth and the progress is insidious. This variety of muscular dystrophy nearly always affects the males. The enlarged muscles feel firm and doughy. Most of the patients die in adolescence or early adult life. The patient has mental deficiency, as evidenced by the imbecile face. The most common lethal effect of the disease is myocardial insufficiency which may often manifest abruptly and may terminate fatally.

Three months after these pictures were taken, the patient looking apparently well, suddenly died with no apparent cause — probably sudden myocardial insufficiency.

4. Volkmann's Contracture:

Following a fracture of the bones of the forearm, the boy was on plaster of paris bandage by his doctor, that was followed two weeks later by extensive ulceration and contracture of the flexor muscles of the forearm — result of the tight plasters.

Sometimes the arterial spasm is caused by the injury itself that causes aseptic necrosis of flexor muscles.

Ischaemic Heart Disease

This is a lecture notes used during the Refresher Course in C. M. C. Hospital and not a regular Scientific Article — Ed.

Ischaemic heart disease occurs when the coronary circulation is inadequate to meet the metabolic needs of the heart at rest or during exercise. It is characterised clinically by angina pectoris, coronary insufficicncy, or cardiac infarction and pathologically by occlusive coronary atherosclerosis with or without thrombosis and by focal or massive myocardial necrosis and fibrosis.

Ischaemic heart disease is responsible for nearly 30% of all cases of organic heart disease. The incidence appears to be on the increase. Atleast 90% of the cases of myocardial ischaemia are produced by coronary atherosclerosis The real cause of human atheroma remains unknown but many factors seem to be involved. The most important of these are the blood lipoproteins consisting of phospholipids, cholesterol and the triglycerides. It is now well accepted that the low density lipoproteins are significantly elevated in the established ischaemic heart clinical state before overt symptoms appear. Though the level of cholesterol is important – the cholesterol phospholipids ratio seems to be more important. The normal ratio is 0.85 to 1.0. Conditions other than coronary atherosclerosis are responsible for cardiac pain in only about 10% of the patients. These are syphilitic aortitis, periarteritis nodosa, thromboangitis obliterans, cor pulmonale, tight mitral stenosis, aortic stenosis etc. Men have a higher incidence than women. Though the disease may occur at any age the commonest age group is the 4th, 5th and 6th decades. There is a definite familial incidence. Constitutional and environmental factors do play a part. Tobacco and alcohol have a definite adverse effect. There is a belief that angina is a doctor's disease. Although the general impression is that ischaemic heart disease is more common among the wealthy or professional men this is not strictly true. It occurs in all occupations and among all classes of people – truly a democratic disease!

Hypertension : particularly diastolic hypertension and diabetes increases the incidence. Certain other diseases which tend to have a high blood cholesterol like myxoedema and some types of cholecystitis are involved in some patients. Obese people have a 50% higher incidence. The main cause of obesity is overeating. Saturated fats particularly animal fats have considerable effect on elevating the blood lipid levels. There are 3 common immediate precipitating factors – Exertion, Emotional stress and a heavy meal.

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Let us consider the different clinical pictures in ischaemic heart disease.

CORONARY ATHEROSCLEROSIS

Group I : Angina pectoris, No prior disease
Group II : Acute infarct
Group III : Acute coronary insufficiency
Group IV : Sudden death.

Angina Pectoris : The pain is due to certain metabolic products of ischaemic cardiac muscle.

The pain is central or retrosternal, radiates to the upper limbs, sides of the neck and jaw. It is rarely in the inframammary area, though it may be more left pectoral than sternal.

It is a constricting, sqeezing, pressing or crushing pain usually measured in minutes and invariably accentuated or precipitated by effort and relieved by rest. Any effort that increases the demand for coronary circulation like climbing up, running, sudden changes of temperature, a large meal, unaccustomed exercise or emotional excitement may precipitate pain.

Coronary insufficiency : What is coronary insufficiency ? It is an unstable clinical state in which the coronary circulation is insufficient to meet the full metabolic demands of the myocardium under resting conditions but is sufficient to prevent necrosis. About 80% have a background of previous angina.

The onset is acute, and there may be days or weeks of unprovoked angina. The attacks are prolonged but still respond to trinitrite. It may occur at night. There may be no physical findings. There is a little or no change in the B. P. or the E. S. R.

Acute infarction : There may be prodromal signs like progressive increase in the number, frequency and duration of anginal attacks. Quite frequently infarction occurs without warning. The acute attack may be fatal or recovery may take place, or congestive failure may follow. The pain usually lasts much longer and is more severe. There is associated collapse, sweating, vomiting, faintness, breathlessness and a feeling of impending disaster. Painless infarction does occur occasionally. Evidence of peripheral circulatory failure, orthopnoea cyanosis, fall of B P., a gallop, transient friction rub, arrythmias and a low grade fever are the usual physical findings.

Investigations : The one single test that is most useful in the diagnosis is an E. C. G. Basically there are 4 types of patterns :

(1) **Angina :** changes only after exercise in an otherwise normal electrocardiogram.

The accepted criteria are :

(i) ST depression or a deeper S wave of more than 2 mm in L2, aVF V4, V5 and V6.

(ii) appearance of arrythmias not present before.

(iii) change from an upright T wave to flat or inverted T waves in any lead.

(2) Anoxic pattern in coronary insufficiency : ST depression and T wave inversion with occasional ST elevation, even at rest but there are no Q waves.

(3) Infarct patterns :

The actual pattern would depend on the time interval after the infarct, and the anatomical sites of the infarction (Anterior infarct, lateral, septal, posterior infarct).

(i) the diagnostic feature is a deep Q wave or QS waves over the site of infarct.

(ii) ST segments elevated over the infarct and depressed away from it.

(iii) T waves are inverted or abnormally tall.

(iv) coving of the ST segment with inverted T waves.

(4) Subendocardial infarction : ST depression and T wave inversion over the epicardial surfaces and reciprocal ST elevation and upright T waves in cavity leads which unlike the ischaemic pattern persist for months. There are no Q waves.

One must remember that it may take any time from a few hours to a few days to get convincing changes in the E. C. G. and serial E. C. Gs. at intervals may be necessary. Particularly in cases of angina it is not too uncommon to find a perfectly normal electrocardiogram.

Blood lipoprotein levels are useful to know when possible, providing one keeps in mind the wide range of normal values. A blood cholesterol level over 250 mgs. is suggestive, over 300 mg per cent very suspicious and over 350 mg per cent almost diagnostic of atherosclerosis. The Alpha/Beta ratio and serum phospholipids are equally if not more useful.

The X-ray may or may not be helpful. It may show left ventricular hypertrophy or unfolding of the aorta or simply signs of congestive heart failure or calcification of the atheromatous patches in the aorta.

The white cell count and E. S. R are raised soon after an infarct and the E. S. R. is of help in assessing the progress of the infarct.

Recently coronary arteriography has been receiving a good deal of interest, and when well performed, is of inestimable use. It however, has its limitations and dangers.

In recent years estimation of certain specific tissues enzymes have come into prominence:—the S. G. O. T., the S. G. P. T., and the D., Myocardial death results in a decrease of these enzymes in the heart muscle and a proportional increase in the blood. In definite myocardial infarction, these tests are positive even before E. C. G. changes are present. The S. G. O. T. levels are not increased in coronary insufficiency or angina but only when there is actual muscle death. The maximum rise is bound between 12 and 48 hours after the infarction. After 3 or 4 days the test is not so useful.

Management:

Prophylaxis: We now have enough knowledge of some of the causative factors involved in clinical coronary artery disease. What can we do to prevent the disease or at least try and arrest it. This becomes particularly important in 2 circumstances.

(1) Those who have atherosclerosis which is generalised or localised to the coronary vascular tree but have not yet developed any symptoms or signs of angina. This is really the high priority group.

(2) Secondly those who have recovered from a "heart attack". We know that each successive attack carries greater and greater risk of death. A great deal of help can and should be given to these patients to prevent further attacks and help them to lead useful functional lives. There is enough evidence now to believe that treatment of 2 factors (i) raised blood lipids and (ii) elevated blood pressure can considerably reduce the mortality rate. Ideally the prevention should start in early adult life before symptoms appear. Any coincidental metabolic diseases as diabetes mellitus, or anaemia should be properly controlled. We have 2 therapeutic measures to reduce a raised blood fat level. Both are of equal importance and should be used together.

(1) **Diet**: The degree of dietary regulation would depend on whether they are overweight, under or of normal weight. In the obese patient, there should be a general reduction in the total calories intake to about 1000 - 1500 calories per day depending on the initial weight until he has reached a reasonably ideal weight. The main object is to reduce the total carbohydrate intake and cutting of animal fat and saturated vegetable fats. After judging the response to the diet, it can be increased or further decreased as need be. Once the weight and the blood lipids are lowered, the diet must be maintained more or less permanently to prevent future rise.

WHAT IS ALLOWED (1000 to 1500 Calories)

Fruits - any type and variety
Light tea or coffee or aerated waters
Bread, rice or any cereal
Chicken, boiled fish, lean meat (little amounts)
Any type and amount of vegetables
Small quantity of gingelly oil
Corn oil or Safflower oil
Moderate sized meals

FOODS TO BE AVOIDED

No liver, brain, kidneys or sweet breads
No eggs. No butter, ghee, groundnut oil
No whole milk, no nuts
No fried and fatty foods
No soup, except vegetable soup
Vegetable fats such as dalda, crisco
No canned fish or canned meats
No ice cream.

In those who are of normal or under weight one cannot reduce the carbohydrate or the total calories but all animal fats and saturated vegetable fats can be cut off.

Hypocholesterolaemic agents :

Experimentally thyroid and oestrogens can reduce blood lipids but they are not practical at the present time. Ethinyl oestrodiol shows some promise in this field.

Heparin : Heparin is the sheet anchor among the hypotrophic drugs used now. The fall of the blood lipids is due to activation of a lipoprotein lipase which increases the hydrolysis of the triglyceryde molecules. The effect is temporary. It can be given I. M. 5 to 10,000 units daily initially for about 10—12 injections and later maintained by twice weekly injections. When the injections are stopped, there is a tendency for the blood levels to go up again and repeated courses may be necessary. With this dosage, there is no danger of bleeding tendencies.

The major difficulty is the expense. I must emphasize that the idea is to reduce the blood lipid level and not to anticoagulate. I. V. Heparin in the same dosage dissolved in 200 cc. of saline 5% glucose is not essential but can be employed.

Nicotinic acid or Pelonin : To obtain satisfactory results, one has to use high doses of atleast 1 gm. or more per day. The difficulty is there are many side

reactions and not very many tolerate this high dosage. The drug must be initially started in small doses say 100 mg. t.d s. given on a full stomach and gradually increased. In many patients even these smaller doses are effective indirectly as it reduces the appetite.

There are other lipotrophic drugs like vanadium or Mer. 29. These have not been found to be clinically satisfactory. Substances like corn oil and Safflower oil *do not* reduce the cholesterol levels by themselves.

MANAGEMENT OF SYMPTOMS :

Angina : The average patients can carry on sedentary or light work quite comfortably. The patient has to be taught to live within his cardiac reserve. Any work or effort that directly causes angina is to be avoided and adequate rest assured. Dieting along the lines discussed is essential. Tobacco and alcohol should be restricted or preferably given up. Co-existing factors like diabetes, hypertension and anxiety should be corrected

Trinitrin 1/100 or 1/130 gr. sublingually is cffective in relieving existing pain or prevent attacks. This drug can be used as frequently as required. Trinitrin acts as a coronary vasodilator without much altering the B. P. Few of the so-called long acting coronary vasodilators are of much value. The Peritrate group of drugs which reputedly relieve pain have not been found to be consistently useful. A combination of Aminophylin, papavarin and Luminal probably by its sedative action is useful in some patients. Artificial myxoedema produced by surgery, thioracil or radioactive iodine have been tried but I have never been convinced of their efficacy or the need for this type of treatment.

Coronary insufficiency : These patients are in imminent danger of developing a full blown infarct and should be put to bed for about 3 weeks. There is little doubt that anti-coagulants used for periods from 3 weeks to 3 months are of definite help in warding off extension of thrombosis. For the pain, morphine or pethidine should be freely used as well as trinitrite tablets. Sleep should be ensured by necessary sedation with seconal or luminal etc.

Acute infarction : Absolute bed rest should be started at once and maintained for 3—6 weeks according to the severity of the illness and behaviour of the Electrocardiogram and E. S. R. If there is failure, he should be kept propped up, otherwise allowed to lie flat on his back.

Laxatives or enemas to prevent constipation are essential. In some cases the risk of moving to a commode is to be preferred to straining on an uncomfortable bed pan. The diet in the first few days should be fluid. Semi-starvation at this

stage followed by semi-solids, about 800 calories during the first week, with gradual increase later, is of help.

The most beneficial drug in the acute phase is Morphia by injection, in adequate doses, as often as necessary to relieve pain and provide rest. Other sedatives like the barbiturates can be used freely as the necessity arises. Night sedation should be given regularly in the early stages. Unless there is a definite anxiety state, there is no advantage in using tranquilisers at this stage.

Anticoagulation should be started as quickly as possible with Heparin and oral drugs later. Heparin therapy can be started without danger in the patient's home since laboratory control is not necessary till the 3rd day Heparin has an anti-thrombic effect besides being an anti-coagulant in many cases relieves intractable anginal pain. Coronary vasodilators do not relieve the pain in infarction nor do they influence its course. Oxygen therapy may be used if necessary.

Surgery in Ischaemic Heart Disease: Operations are done with two objects in view either to abolish severe pain or to improve the coronary circulation by increasing the collateral circulation. Operations for relief of pain by nerve block or gang-lionectomy are rarely done nowdays.

At the moment 3 types of opertions are practised for improving the coronary circulation.

(1) Thrombo endarterectomy (2) grafting of pectoral muscle, omentum or jejunum, into the pericardium or myo-cardium (3) cardiopexy or irritation of the pericardium by sprinkling talc on the surface of the heart. The mortality of the last type of operation is low and experimental results are promising but they have not yet become widely accepted. Other newer techniques are being developed.

TREATMENT OF COMPLICATIONS

Shock: can be serious and rapidly fatal in the early stages. Encouraging results are obtained by using one of the vaso-pressor agents. Nor-adrenalin 6 to 10 mgs. in a pint of 5 per cent glucose can be infused intravenously at 15–20 drops/min. The rate is adjusted to maintain the systolic pressure at about 120 mm. Hg and continued as long as necessary. When the drug is withdrawn a careful watch of the blood pressure should be kept for recurrence of shock.

Mephentermine (Mephine): has the advantage that it can be given I. M. or as direct intravenous injection in doses 30 to 45 mgs, which can be repeated every half hour if need be. The action is more prolonged and withdrawal of symptoms less common. It is rational to try digitalis in small doses to combat cardiogenic shock.

Conventional heart failure usually responds well to the usual antifailure measures, digitalis and diuretics. There should be no hesitation in using digitalis if there is failure.

Arrhythmias : Ventricular tachycardia or frequent ventricular premature contractions, can be controlled with adequate doses of either Quinidine or Pronestyl. While using Pronestyl, the B. P. has to be watched. Atrial fibrillation, flutter or tachycardia is treated with digitalis and heart block with Ephedrine.

The frozen shoulder syndrome : A painful stiff shoulder usually affecting the left side is a late complication. Local heart, exercise and intra-articular injections of 50–100 mgs. of Hydrocortisone with 2cc of 2 per cent Procaine are to be tried. This can remain troublesome for many months. There is no joint disease.

The subsequent management of the Infarct patients depends on the clinical progress and the electrocardiogram. If the course is benign he may be allowed to get up after 3–4 weeks and ambulated slowly over the next 3 weeks. A convalescent period of 3–4 months before returning to light work is necessary. The degree of restriction of activity and duration of bed rest has to be assessed entirely on the clinical picture. After recovery, all the measures we have discussed regarding the propylaxis against further attacks, is to be rigidly maintained for years. I have known patients to get second attacks as long as 10 years after the first.

Anticoagulant Therapy :

There is still a great deal of controversy for and against this form of treatment. Let me point out a few basic principles first. (1) To put a patient on anticoagulant drugs is not necessarily anti-coagulation. This treatment is particularly worthless unless the prothrombin time is between 2 to 2.5 times the normal.

(2) Secondly this is primarily an inpatient treatment. One has to start treatment in a hospital with the patient under constant supervision till the dosage is regulated. A good laboratory control is essential. Unless there are facilities for checking the prothrombin time twice a week, and the patient is sufficiently intelligent not only to take the tablets regularly but report to the doctor at the first sign of trouble one should not use these drugs.

(3) Thirdly the expense - it requires a fair amount of the doctor's time and the drugs are not too cheap.

It is now well accepted that routine anticoagulation of all patients with ischaemic heart disease is not advisable. The treatment has its own complications like haemorrhage, which can cause death. These drugs reduce the mortality rate but do not abolish it. This is a prophylactic and not a curative treatment.

What type of patient can we anticoagulate :

(1) High priority group
(2) Low priority group

(1) High priority groups :
  (i) acute recent myocardial infarction
  (ii) acute coronary insufficiency
  (iii) thromboembolic episodes

(2) Low priority groups :
  (i) those who had more than one infract
  (ii) angina pectoris only
  (iii) generalised atherosclerosis
  (iv) very old patients
  (v) presence of congestive failure

Angina Pectoris : Strictly speaking these are the people who could be helped most – to prevent a further infarction but we are limited by the difficulties of long term treatment. It has been found that anticoagulants are most effective when given to patients who have had a short history of symptoms. In those treated within 1 year of onset, the mortality is reduced to 2% compared to 8–15% in untreated cases. The death rate is 1/8th of the untreated group and infarction rate 1/5th. This good effect lasts for 3–4 years. It is best used in younger patients and those without additional hypertension or congestive failure.

In coronary insufficiency the incidence of further thrombosis is greatly minimised by anticoagulants. Since nearly 25 to 45% of all infarcts have had previous coronary insufficiency, it is worthwhile to treat all these patients atleast 2-3 months. Anticoagulants reduce mortality from 30% to 6% (nearly five-fold). The incidence of infarction is decreased by 7 times. The final state of health or disability is only improved two-fold. Long term anticoagulation however, has not proved itself to be as useful as once claimed to be. The answer probably is to give anticoagulants for at least 6–12 weeks and then continued for upto a year if conditions are favourable. When you have good laboratory facilities and the patient is capable of coming regularly, it will be worthwhile trying it for 2 or 3 years in the younger patients. When there is recurrent severe angina or thromboembolic episodes the drugs should be restarted, particularly Heparin. Heparin not only increases the coagulation of blood but also exerts an antithrombotic and antilipaemic effect. This reduction of the lipid level has been shown to increase the oxygen uptake of the heart and relieves the pain.

In acute myocardial infarction there should be no hesitation in giving anticoagulants. Maximum benefit is obtained by starting as soon as possible, after the infarct and continuing for 6–12 weeks. The best results are seen in first attack. With repeated infarcts the long term results are poor. If there is definite congestive heart failure or severe hypertension or multiple infarcts there is not much point in giving anticoagulants.

Drugs : Heparin is the ideal drug as it has anticoagulant, antithrombic and antilipaemic effects. It is given in dose of 7500 to 10000 units I. M. or I. V. 6 hourly for 3 to 4 days. During that time oral drugs can be started and maintained. The main disadvantages are the expense and the repeated injections. In rural practice, however, Heparin is probably a safer drug.

The commonest oral drug used is Dindevan. For an adult 100 mg. t. d. s. are given the first day, 100 mg. B. D. the second day and 100 mg. the 3rd day. Thereafter the dosage should be adjusted by the Prothrombin time, which must be maintained at 2–2½ times than normal. Initially Prothrombin time has to be checked daily or on alternate days and when well controlled once a week or even once a month is enough. If a patient is allergic to Dindevan other drugs like Warfarin Sodium, Dicoumarol or Cinthrom can be used. A point to remember while stopping anticoagulants is to taper off the dose rather than abruptly withdraw it to prevent rebound coagulation.

The absolute contraindication for anticoagulant therapy are evidence of any ulcers, liver damage, bleeding tendencies, severe congestive failure and cerebrovascular disease. To this must be added lack of laboratory facilities, lack of adequate medical supervision and lack of cooperation and intelligence in the patient.

In conclusion I would say that Ischaemic heart disease should be primarily prevented if possibly by careful attention to diet and habits. If it is not, it should be treated with great care as one of the commonest causes of cardiac death.

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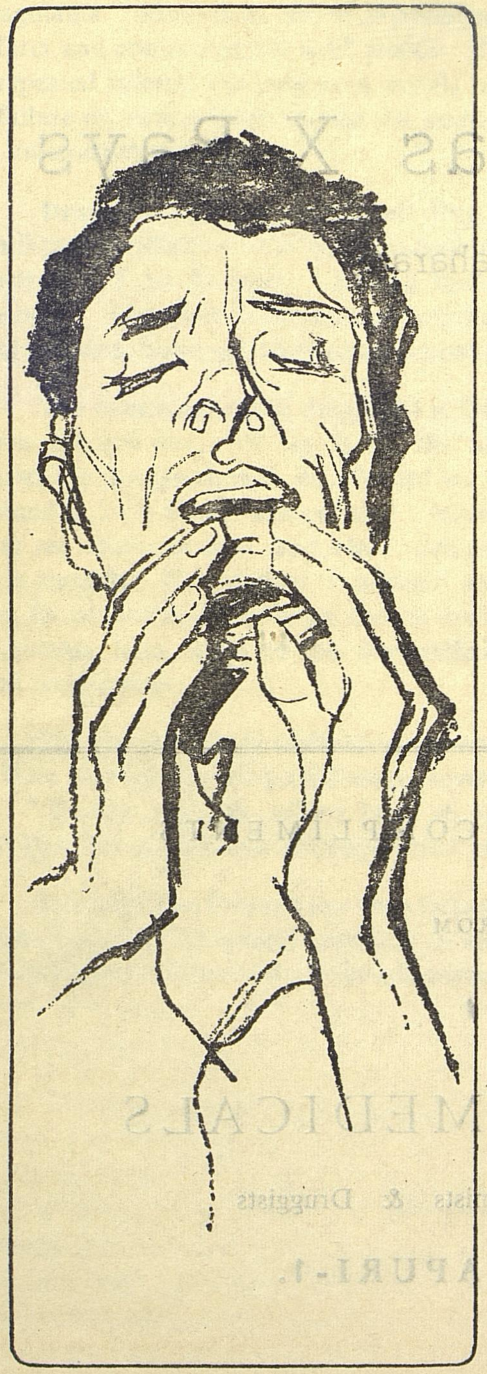

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Emergencies on Eyes

Dr. G. Anguswamy, L. I. M.

The emergencies on eyes constitute of injuries, acute inflammations, raised intra-ocular tensions and sudden blindness.

Introduction: As Dr. May has rightly put forth that "every general practitioner should have knowledge of ophthalmology even if such knowledge is theoretical than practical," it will atleast ensure that the doctor is aware of the possible ophthalmic sign and symptoms that may be associated with, and may be an aid to the diagnosis of various general diseases, although examination by an opthalomologist may be necessary to elucidate the exact condition present.

Injuries: The injuries to the eye are common in every walk of life. The greatest danger of injuries to the eyeball is the effect of subsequent infection which may lead to loss of the whole eyeball even.

The first examination should be systematic and thorough including vision and condition of each eye. In all cases of injuries the vision should be tested with test charts or roughly with the help of similar letters at hand. One cannot afford to have the impression that there is one more eye even if one is lost in case of injuries, as there is every chance of loosing the other eye also as a result of sympathetic ophthalmitis which may occur in apparently normal eye after 4 weeks to many months or even years.

Now we shall deal with the injuries with reference to order of structures of eye ball and its adnexa.

Haemotoma: of eye lid can easily be recognised with evidence of swelling and 'black eye'.

The immediate treatment is the use of cold compresses. No other measures are usually required. One should exclude the involvement of other underlying structures by careful examination. *Cuts and abrasions* should be dealt with sutures and proper dressings. This will prevent furthur scarring and deformity. *Bnrns and scalds* of the eye lids should deserve the same treatment as is given in general surgery.

Foreign Bodies: The foreign bodies in the eye constitute one of the commenest of all injuries and emergencies. They may cause serious damage to the eye and to the vision. Foreign bodies are usually particles of coal, emery, dust and steel.

(b) Foreign bodies in conjunctua :

The conjunctual foreign bodies usually wedge in the conjunctual sac at about the middle of the upper sulcus subtarsalis. They are liable to be overlooked unless the upper lid is everted. The subtarsal foreign bodies cause discomfort, redness of eye and watering. The treatment may easily be done by removing it with wisp of cotton and drop of sterile castor oil is instilled.

(b) Foreign bodies in Cornea :

Small foreign body particles are liable to fly straight on to the cornea and penetrate into epithelium or into the corneal substance. They cause great pain, discomfort, irritation and conjunctival congestion. In case of doubt the eye should be instilled with 2% anethaine drops and examined with magnifying lens. Foreign bodies on the corneal epithelium can be removed by touching it with slip of clean blotting paper which exercises cappillary attraction. If this method fails a spud may be used. If the foreign body is embeded within the epithelium, a chisel shaped spud should be dipped into the epithelium beneath the foreign body and should be lifted off. If the foreign body is fixed in the substance of cornea, a needle must be used that will prick into the tissue beneath the foreign body and push it out. But the last method should be used except when it is imperative for it damages the tissues and may open up corneal spaces to infection.

Irrigation of the eye should be done after removal of the foreign body and a pad and bandage sould be given. With the older individuals the lachrymal sac should be examined for any evidence of preexisting infection of the sac and that should be dealt with either by irrigation of the sac or cauterizing the punctum. Emery and lead particles after removing them leave behind little ring of brown stain which should be gently scrapped off. Except in older persons atropine drops should be instilled for a day or two.

Perforating wounds of cornea :

Foreign body may strike with momentum as to pass through the undercoat and come to lie with the eye ball. The diagnosis of intra-ocular foreign bodies is helped by a knowledge of history of the accident. The report of the injury while using a hammer or after explosion are suggestive of *intra-ocular foreign body*. These types of injuries constitute the danger of *pan-ophthalmitis* and *sympathetic ophthalmitis* of the unaffected eye.

Each case will pose a problem for its removal. So the case of this type may be referred to the experts. The X-ray examination and ophthalmoscopy may help to locate the foreign body. Thc control of infection with help of antibiotics and sulpha drugs should be done.

Conjunctival and corneal abrasions :

The conjunctua and cornea may be injured superficially as a result of foreign bodies and scratches. The conjunctual tears usually bleed and can easily be made out.

The conjunctual lacerations : may need suturing with black silk if it is intensive and pencillin drops instilled and a pad and bandage is applied.

The corneal abrasion deserves careful examination with magnifying lens after staining them with mercurochrome or flouresin 2%

Pencillin drops should be instilled. Alropine 1% drops also should be instilled to prevent uveal irritation. A pad and band is essential.

Non perforating injuries to the eyeball

The injuries by blunt instruments may result a range of damages from simple abrasion of the cornea to the rupture of whole eyeball. The non-perforating injuries may cause blood in the anterior chamber (Hyphaema) tears of iris (Irido dialysis), concussion cataract, Dislocation of lens, contusion of retina (commotio retina) rupture of choroid and traumatic glaucoma. ***Hyphaema*** is treated by advising complete rest to the person. A pad and bandage is given. Though the use of atropine is contraversial, it may be usued with caution.

Irido Dialysis (Tears of iris) The rupture in the pupilary margin are of little significance. The tearing of rest of the iris deserves suturing which may be done by the ophthalmologist.

Concussion cataract requires no immediate treatment. It may clear in the course of time or it may result in permanent opacities.

Rupture of choroid, tranumatic glaucoma and commotio retinae are best treated with bed rest and these cases require attention of specialists. The recognition of these conditions may even be difficult to the general practitioner. Traumatic myopia is a common result of non perforationg injuries. Recovery usually occurs after some time.

Sympathetic ophthalmitis is a much dreaded condition in which serious inflammation attacks the sound eye after the injury of the other.

It usually begins four to eight weeks after the injury to the first eye (the exiting eye) has taken place. It may be delayed for many months or even years. It is said as many as forty years. There is always iridocyclitis in the exiting eye. The onset of sympathetic ophthalmitis in the second eye is evident by irritation,

ciliary injection and tenderness. The exiting eye, while showing evident traces old iridocyclitis may not possess useful vision.

The treatment of sympathetic ophthalmitis consists in the use of atropine with caution, cortisone both systemically and locally hot compresses absolute rest and dark glasses. The surgical interference should be decided by the specialists when vision is failing.

Burns and scalds

The cornea and conjunctiva may be burnt by caustic alkalies such as lime, by acids and by hot fluids. Alkaline burns cause more damages than by acids.

Immediately the eye should be instilled with neutral oil such as olive oil, cod liver oil. The solid particles if any, should be picked and removed. In cases of alkaline burns (falling of quick lime is a common occurrance). Turmeric drops or corvo sympton (Duphar) solution 10% should be instilled to every 30 minutes for 2 to 4 days as a specific measure. Cortisone drops should be instilled to prevent adhesion of lid to the ball (symblephron). Atropine drops and cortisone drops can be used to both the alkaline and acid burns. Antibiotic drops can be instilled to prevent or combat any infection. Everyday the eye is dressed with castor oil or costrisone and a glass rod is passed along each fonix to break down adhesions. Extensive damage to the conjunctiva is treated with amniotic membrane graft by experts. In all these cases the aims are (1) to prevent sympathetic ophthalmitis (in case of injuries) (2) to avoid generalised infection of whole eyeball and (3) to restore greatest possible vision.

ACUTE INFLAMMATION OF THE EYEBALL AND ITS ADNEXA

Acute conjunctivities :

Ophthalmia neonatorum. It is a mucoprulent conjunctivitis occuring in new born. Failure to attend immediately will cause serious damage to the cornea and lead to even total blindness. Nearly 30 out of 100 children in blind schools have lost their vision due to ophthalmia-neonatorum.

Instillation of 2% silver nitrate to the new born is a known preventive measure (Crede's method). Penicillin drops 2500 units / cc with oral sulpha therapy is a promising line of treatment. Paraffin should be smeared to prevent sticking of eye lids.

Acute conjunctivitis : in adults can be treated effectively with antibiotic drops / ointment. Gonococcal infection of the eyes in adults may be result of genital infection. In such cases the cause should be treated.

Allergic conjunctivitis : Itching and watering of the eyes are common symptoms.

Antistine-privine drops, contisone drops releive the condition. ***Stye (Hordeolum)*** is treated with hot fomentation, by incision or epilation. Penicillin drops may be instilled to prevant local infection.

Corneal ulcers: (Ulcerative keratitis)

The symptoms are photophobia, pain, epiphora and defective vision. The possible dangers are spreading of infection (pan-ophthalmitis), secondary glaucoma and perforation of cornea.

Treatment: Locally:—preexisting foreign bodies, if any, should be removed. Atropine drops are instilled to prevent uveal irritation.

A suitable antibiotic with cortisone and a pad and bandage are essential measures.

General:—Non specific protein therapy with milk and vitamins are useful.

Acute inflammation of uvea: (i–e) inflammation of iris, ciliary body and cornea) is in most cases due to infection but also may be caused by an injury. The iris is vascular, swollen with blood and lymph, sluggish in movement and its surface becomes gummy and tends to stick to lens. (SYNECHAE)

Treatment: Immediate instillation of atropine 1–2% to dilate the pupil to prevent adhesion. Cortisone drops or cortisone by sub conjunctival injection and hot fomentation. The recogitation of underlying cause such as syphilis and its removal is essential.

Acute Dacryocystitis: The pyogenic infection of the lachrymal sac may cause swelling and give rise to an abscess even. There will be a typical swelling over the side of nose with severe pain.

The condition is treated with hot fomentation and with penicillin systemically, and if an abscess forms, the latter should be referred to specialists.

Acute Glaucoma: (Raised intra Ocular tension)

Usual premonitory signs of acute glaucoma are rapid, increase of difficulty in reading, redness of eye, pain, coloured rings seen in distant light. With onset of an acute attack there may be sudden loss of vision combined with nausea and vomiting. The eye ball becomes congested and swollen lids and conjunctiva are found. The cornea becomes steamy and iris is not clearly seen. The pupil dilated and fixed. The tension of the eye ball is palpably increased.

The treatment is urgent. Instillation of eserine 2% drops in every hour pilocarpine 1% drops should be instilled at 5 minutes interval for half an hour then half hourly intervals until myosis secured. Local hot fomentation with oral diamox therapy may be helpful adjuant. Several surgical measures are employed to control

tension. Trephining, sclerotomy etc. are the surgical treatment taken by experts to releive the tension.

SUDDEN BLINDNESS

The term blindness implies inability to perceive light. Glaucoma, syphilis, inflammatory diseases such as iritis, irido-cyclitis, choroidal lesions, vascular lesions due to diabetes, obstruction to central artery of retina, optic atrophy and intracranial tumors are the common causes of sudden blindness.

The treatment of various condition causing blindness and the scope of general practitioner are already discussed. In cases of sudden blindness every effort should be made to diagnose the primary cause and the treatment should be given in accordance with the diagnosis.

Obstruction of the Central Retinal Artery:

The obstruction may be due to thrombosis associated with arterio-sclerosis. Embolism from the heart or spasm of the arterial wall occuring during an attack of migraine or is sometimes associated with hyper-tension may cause obstruction. The usual symptom is sudden and complete blindness. The treatment is rarely effective. Massage of eye ball, inhalation of amyl-nitrate, actyl — choline injection sub-conjunctivaly.

Retrobulbar injection of 25 mg. of priscol and also by mouth, Co_2 inhalation, paracentesis of anterior chamber are various methods employed by ophthalmologist. In a few cases such treatment has been beneficial.

Optic atrophy: The degenerative condition of optic nerve is called optic atrophy.

Tobacco, ethyl & methyl alcohols, canabis indica or carbon dislulphide are the toxic substances which damage the optic nerve and cause toxic atrophy. Blindness due to quinine may occur even in small doses of 12 grains. Treatment consists of abstention from the use of tobacco or alcohol.

Improvement may be hastened by dilatory drugs (Sod. nitrate 50 mg. i. v.,) Erethrol tetranitrate by mouth and massive doses of B vitamins (B1 and B12) preparations.

Tumors etc.

Intracramial tumors, vascular aneurysms, cerebral haemorrhages and thrombosis, Infections causing meningitis, and brain abscesses may bring about pappillaedema and impairment of vision. In such cases symptoms other than blindness will be evident and the treatment should be given for the cause.

Feeding Problems in Infancy and Childhood

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This is a lecture notes during the Refresher Course in C. M. C. Hospital and not a regular Scientific Article — *Ed.*

Breast feeding : Most Indian babies are breast fed.

Breast feeding has its obvious advantages — clean milk of the right temperature and composition available on the spot when required; no calculation, mixing or warming bottles at midnight, no transport problems and no milk bills.

Difficulties with breast feeding :

Malformations of the lip and palate of the child make feeding impossible. If this occurs, breast milk should be expressed and fed to the child by spoon.

Children with severe congenital heart malformations tend to get breathless on feeding: or a premature baby might be too weak to suckle. These infants will also need expressed breast milk fed with a spoon or paladai.

There are very few contraindications to breast feeding – tuberculosis in the mother is an absolute contraindication to breast feeding. When the mother suffers from chronic diseases such as nephritis, etc. breast feeding imposes an added burden. If the mother develops a breast abscess, there is no reason why the child should not be fed from the normal breast and feeding supplemented with cow's milk until the infection is brought under control.

Artificial feeding :

When there is a failure of adequate supply of breast milk, or when there is disease in the mother, artificial feeding of the child is required.

To advise correct feeding, there are certain facts to be borne in mind. The feeds should be geared to the ***expected body weight*** of the child, and not on the actual body weight, if the infant is to gain weight.

The expected body weight of the baby is calculated from the birth weight, as follows :

The baby loses weight soon after birth, and regains the birth weight by the 10th day. From then on, the infant gains at the rate of one ounce a day

for the next ninety days or three months. During the third to the twelfth month, the baby gains at the rate of a pound per month.

Many of the babies we see are born at home, and a record of the birth weight is not kept. Under these circumstances, it is well to remember that the average weight of the babies born in this area is 6 lbs.

The infant needs $2\frac{1}{2}$ ounces per pound of fluids per day and around 50 calories per pound of expected body weight.

This can be achieved by giving the infant cow's milk in the following dilutions :

At birth 1:1 cow's milk to water.
At the end of the first week 2:1 milk and water.
After the first month 3:1 milk and water.
After the 5th month — undiluted cow's milk

One teaspoon of sugar is added to every three ounces of cow's milk and water mixture.

If feeding with a dried whole milk powder is considered, one measure of the powder is added to every ounce of the calculated amount of water, and one teaspoon of sugar is added to every three ounces of milk mixture. It goes without saying that in artificial feeding, scrupulous cleanliness of the vessels and bottles should be maintained. Raw or unboiled milk should never be offered to the infant.

Vitamin Supplements :

The requirements of vitamin C are supplied by two tablespoons of orange juice, which should be offered to the child, well diluted with cooled boiled water, from the age of two months. Tomato juice, the juice of sweet limes or the juice of lightly boiled drumstick leaves might be used as alternatives.

Bottlefed babies need vitamins A and D from the 2nd month onwards. One teaspoonful of a standard shark liver oil preparation will supply the necessary amounts of these vitamins. With the more refined and concentrated forms of fish liver oils, only a few drops, enough to supply 2000 IU A and 400 IU D, are needed.

Refusal of the Bottle or Breast :

This occurs when the baby has cold. Small infants do not breathe through the mouth, and during feeding, a stuffy nose prevents the child from breathing. As a protest, the infant might refuse to feeding.

A few drops of ¼% ephedrine in aqueous solution instilled into each nostril before the feed will open up the nasal passages and allow the baby to feed in comfort. Nasal drops in oily solution are not recommended as, if aspirated, lipoid pneumonia might be caused.

If the infant gets thrush, the bottles might be refused, on account of the soreness of the mouth associated with this infection. 1% gentian violet in aqueous solution used to swab out the mouth, 2 - 3 times a day will quickly clear the infection

Colic :

About ½ to 1 hour after a feed, the baby draws up its legs and screams contiuously from pain. Colic is caused by large amounts of air swallowed during feeding, passing into the intestines and overdistending them. It occurs most often in bottle fed babies, particularly if they are underfed. The ravenously hungry infant gulps down the feeds and along with the milk ingests large quantities of air.

If at the end of the feed, the infant is not propped up and allowed to break wind, the ingested air passes down the intestines and causes colic. During an attack, gripe water does no certain good, but the infant is comforted if turned on to its stomach, until the air escapes as flatus. Prevention of colic is easier than its cure. The feeding schedules should be reviewed carefully, and enough food should be offered.

At the end of each feed, the baby is propped up and the back patted until the wind comes up.

A few babies might require sedation to prevent gulping of feeds. ½ to 1 grain of Chloral, given 15 minutes before a feed will usually quieten a restless infant.

Weaning :

Breast feeding during the early months of infancy is usually achieved very satisfactorily by most women, and the babies are contented and gain weight well.

When the baby reaches the age of 4 to 5 months, or weighs between twelve and fifteen pounds, thirty to forty ounces of breast milk are required for continued growth and well being. Many women are unable to produce so much breast milk daily.

It is at this stage that weaning should commence, for if the infant is not offered additional foods, the weight gain will slow down and then become stationery.

The baby should now be offered cereal congees and introduced to small quantities of a variety of foods, so that, in a few months time, breast feeding may gradually be discontinued.

At the end of the fourth month, therefore, the child should be offered thin ragi, wheat or rice congee, and started on mashed ripe plantain. A month later, thicker congees and half boiled egg are introduced. When the teeth erupt, rusks or biscuits will hasten teething. Pureed vegetables, rice, dhal and finely minced meat can be offered in increasing quantities from the seventh month onwards.

Diarrhoea: Only the milder disturbances of dietetic origin will be discussed; the acute infectious diarrhoeas and chronic diarrhoeal conditions are excluded.

The breast fed baby and quite a few bottle fed babies normally pass 4 to 5 stools, of a soft ointment-like consistency, per day. Other babies, also within the normal range, might pass only one yellow soft stool a day.

Loose acid frothy stools are passed by bottle fed babies who get too mnch sugar in their feeds. These stools may excoriate the buttocks. Large pale bulky stools are passed by infants getting too much fat. The remedy is simple — the offending agent in the feeds is reduced. When a baby passes a large number of loose watery stools, and an infective or dietetic cause is not readily apparent, it is well to remember that a good proportion of these mysterious diarrhoeas in small babies is caused by the overenthusiastic use of castor oil as a purgative. Half to one tablespoon of the oil is frequently given to these unfortunate children on alternate days, in an effort to "clean out the stomach".

Constipation:

This is more often found in bottlefed babies and is defined as the passage of a hard stool. This can often be corrected by adding a larger quantity of sugar to the milk mixture.

If the baby is underfed, or short of fluids, constipation will result.

Anal fissures - due to the passage of a hard faecal mass - are not uncommon in this age group. The fear of painful defaecation due to a fissure aggravates the constipation. Nupercaine ointment applied within the anus and milk of magnesia to soften the stools, will allow the fissure to heal, and prevent pain during defaecation. In Hirschprung's disease and congenital and stenosis, chronic constipation is the presenting symptom.

Constipation in the toddler or in the older child can also be treated by adjustments in the diet. More fruit and fruit juices, with larger helpings of pureed vegetables will help the child to have a normal stool. Purgatives are not advised, but a mild laxative, such as milk of Magnesia, ½ to two teaspoonsful, can safely be used, both for toddlers as well as for babies.

Vomiting :

"Posseting" or the spitting up of a mouthful of feed is quite common, due to overfilling of the stomach. It also occurs when the baby breaks wind, and requires no treatment.

Vomiting soon after birth occurs when the baby has swallowed liquor amnii which irritates the stomach and gives rise to the production of large quantities of mucus. A stomach washout with normal saline will clear up the vomiting.

Persistent vomiting soon after birth is usual in the congenital anomalies of the gastrointestinal tract – duodenal atresia and malrotation of the gut. Treatment is surgical In congenital pyloric stenosis, projectile vomiting occurs during the 2nd to the 6th week of life.

A hungry underfed baby, who gulps down a lot of air with the feed will vomit. So will the infant who ingests a lot of air while sucking at a teat with too small a hole in it. Making the hole bigger and making sure that the infant is getting sufficient food will stop vomiting due to these causes.

Some babies ruminate; they regurgitate a mouthful of milk and do so frequently. Once the habit of rumination is formed, a large quantity of each feed is thus regurgitated and infant fails to thrive. Thickening the feeds with cereal makes it more difficult to regurgitate.

Infants with whooping cough frequently vomit after a spasm of coughing, and feeding them becomes a problem. A small feed offered ¼ — ½ hour before the actual feeding time often provokes coughing and a vomit. After which, the routine feed is given and is often retained.

In cerebral tumour, meningitis, intussusception, volvulus, and parenteral causes such as otitis media, pharyngitis and pyelitis, vomiting occurs as a symptom of the disease. Treatment is directed at the cause of the vomiting.

Overfeeding is rarely one of our problems, but UNDERFEEDING certainly is. The underfed baby fails to gain weight satisfactorily. Weight gain first slows, and then becomes stationary. The infant is constipated, or passes several small green stools, the so-called "hunger stools". Vomiting might be a feature, when the infant gulps down large quantities of air along with the feed This, with the accompanying colic, causes the parents to still further dilute the feeds, thus aggravating the situation. Treatment consists of offering the infant the correct amount of milk for the expected body weight.

Delayed weaning and ignorance of the food requirements of the child are responsible for the underfeeding of the toddler, a condition that is extremely commonly seen. In the toddler, chronic underfeeding so conditions the child's appetite, that he is unwilling to eat, even when the food is available. These children need to have their appetites re-educated. Toddlers aged one to four years need about one thousand calories per day, and about 20 ounces of cow's milk per day.

These requirements are supplied by a specimen diet given below :

Diet :

6.00 a. m.	Milk	6 ozs.	
8.00 a. m.	Iddli or stringhoppers with butter		
	Egg	1	
	Fruit juice		
10.00 a. m.	Milk	6 ozs.	
12.00 noon	Rice with thin sambar	3 ozs.	
	Ground meat or fish	2 ozs.	
	Boiled vegetable		
Dessert :	Pudding with 3 ozs. milk or fruit		
2.00 p. m.	Fruit juice or chopped fruit		
4.00 p. m.	Milk	6 ozs.	
7.00 p. m.	Chappathi	1	With dhal or curd.
	OR		
	Rice	3 ozs.	

Scientific assessment of Vata-dominating diseases (Vata-Vyadhi)

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Vata-dominating diseases in Ayurveda cover a wide field. Almost ninety per cent of diseases can be twisted in this group. Deranged vayu or vata being of all pervading nature in the system can affect all bodily organs, tissues, bloodvessels, nerves or body components. So its dominance in the context of derangement can generate diseases known, unknown, knowable or not knowable. Scientific assessment of some diseases has been so far made by modern method. Most are steeped in the mire of ignorance. Modern scientific investigation is not sufficient to penetrate into the depth of all diseases. The stand point of Ayurvedic investigation of diseases is entirely different from modern outlook. Any disease, however intricate it may be, can be brought under its purview in the context of Dosha derangement. Dosha derangement has been classified into morbidities three in number – Vayu, Pitta and Kapha. The five primordial components of the universe in five Mahabhutas have been compressed into three primal causes or factors in body formation. They are both Dhatus or nutrients and Malas or morbidities. Nutrients contribute to the body formation, morbidies cause diseases producing imbalace or inequilibrium in the system. Elimination or palliation forms the basis of treatment. So Sushruta says —त्रयो दोषास्त्रयो मलाः । Bagbhat says—शोधनं शमनं चेति समासाच्चिकित्सा द्विधा। They are practically Karya – Karan theory of Charak as enunciated in the Sutrasthan of Charak. Man to microbe has been conceived as a miniature universe in separate units with Dhatu and Mala. That universal concept has been the basis of Dosha – Dhatu – Mala Theory of Ayurveda. That philosophic concept is the aetiological background of all diseases. So in Madhabnidan we find the simplest dictum —

सर्वेषामेव रोगानां निदानं कुपिता मलाः ।
तत्प्रकोपाणां हि प्रोक्तं विविधाहित-सेवनम् ॥

Deranged morbidities are the root cause of all diseases due to misguided diets and demeanours. In the context of cause Vayu, Pitta and Kapha are Doshas. In the context of effect they are Dhatus and Malas of the same name. Sargadhar has further clarified the same about the three aspects of Dosha.

दूषणाद्दोषाः धारणाद्धातवः मलिनीकरणान्मलाः ।

The aetiological background of the disease is generated in the system in the context of Malas. These malas are carried by Vayu which itself becomes degenerated as a

matter of course. This conception of disease has a universal value and in treating a disease it helps a lot even where modern science fails. Here I shall cite an example how many experts of the modern science failed to diagnose the disease and even the best expert of a well-known Calcutta hospital wanted to keep the patient under him for investigation for one month for the diagnosis of the disease. From the nature of the regular acute pain the patient (she) was reluctant to remain under him and she placed herself under the Research Section of the Shyamadas Vaidya Sastrapith Ayurveda Hospital for treatment where investigation is carried out both by the modern expert and Ayurvedic expert under the Central Government aid in a co-ordinated method but the treatment is conducted according to Ayurveda under Ayurvedic experts. The patient Miss Mazumdar (27) B. SC., B. T., teacher of a Calcutta H. E. School was attacked with some pain in the right groin, for a few months from February 1966. The pain lasted for a few hours but again started in the next few days. In this way it continued for a few days. When it became more or less constant, she was treated by some local Ayurvedist and the pain subsided for the time. This state lasted for about a fortnight and it started again for one month till she was admitted in the hospital in April 1966. Pain becomes unbearable at night and also during menstrual periods. Pain is partially relieved by dry hot compress. Pain is dull aching in nature during the day time. There was no radiation of pain. She was examined by some Allopathic doctors who expressed varied opinions about her disease - appendicular inflammation, colitis, menstrual irregularity and lastly hysteria. Finally they advised hospital investigation which was conducted by an expert in a famous hospital but no conclusion could be arrived at and she was ultimately admitted in the Research Ayurveda hospital where a few vata dominating diseases are treated by a single drug trial.

Here the dull pain continued throughout the day but the pain in the inguinal region aggravated severely at night between 12 P. M. - 4 P. M. and abated appreciably in the morning. Two nurses had to attend her during the pain which was restricted to a region about two inches lengthwise and one inch breadthwise and no radiation right or left and above and below. The pain subsided with hot sand bath. After three or four days the pain extended between three to four inches. This pain was then even ignored by the Allopathic team in the hospital and concluded it to be a case of hysteria.

From Ayurvedic standpoint it was diagnosed to be tuni or pratituni (तूनी या प्रतितूनी). After close investigation it was found to be pratituni :

अधो या वेदना याति वर्चोमूत्राशयोत्थिता।
भिन्दतीव गुदोपस्थं स तूनित्यभिधीयते ॥
गुदोपस्थोत्थिता सैव प्रतिलोमविसर्पिणी।
वेगैः पक्वाशयं याति प्रतितूनीति सा स्मृता ॥

It is a kind of Vata-sleshma dominating disease. Night aggravation is indicative of sleshma dominance. Different preparations of prasarani in the form of pills, pot herb and castor oil preparation for Anubasan (Rectal medication) were prescribed and dietetic restriction in the Vata-kapha prevention context was made and the procedural method of hot sand bath was taken recourse to arrest the night aggravation. This continued for fifteen days continuously which gave definite relief but permanent effect was not noticeable except four days in the interimal period when there was no pain. After 15 days the pain began to change site and it was gradually moving upwards about three inches above, which was four inches lengthwise. So Sushrutas treatment of वात्व्याधि and मटावातव्याधि was considered the last step for further step and leeching was taken recourse to which he advises as a measure of Vata Sonitiki Kriya. So he says

गृध्रसीविश्वाची क्रोष्टुकशिरः खञ्जपांगुल्मवातकंटक पाददाट पाद टर्सावबाहुक बाधिर्य थमनीगत वातरोगेषु यथोक्तं यथोद्देशं च सिगव्यधं कुर्यात्, अन्यत्रावबाहुकात्ः वातव्याधि-चिकित्सतं चावेक्षेते । — सु. चि. ५/२३

It was a form of Dhamanigata vata. Two leeches at the two extremities of the changed site upper and lower in a range of three inches were applied and the result was miraculous. There was no pain, no reaction, no disease symptom of any type whatsoever. The patient has been totally cured in course of three weeks. She remained under observation for one week and she was found free from all troubles whatsoever.

Conclusion – In Pratituni rectum and vagina become involved by deranged vata. In cases where vagina became involved vata preventing produral works have been advised by Astanga Hridaya. So Bagbhat says –

योनिव्यापत्सु भूयिष्ठं शस्यते कर्मवातजित् ।
स्नेहन स्वेद वस्त्यादि वातजासु विशेषतः ॥
न हि वाताहते योनिर्वनितानां प्रदूष्यति ।
अतो जित्वा तमन्यस्य कुर्याद्दोषस्य भेषजम् ॥

— अ. हृ. उ. स्थान ३४/२२-२३

Here the principle of treatment consisted in controlling deranged vata primarily and the treatment of vata sonit secondarily by blood letting as enunciated by Sushruta in Dhamanigata Vata. Here in this particular case down coursing Dhamanipratan was involved. In Dhamanigata vata Sushruta recommended blood letting. But blood letting should be taken recourse to when morbidities are displaced to a suitable site for elimination by snehan & swedan which were done in this case and the patient was cured.

The Care of Minor Hand Injuries

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[This is a lecture notes used during the Refresher Course in C. M. C. Hospital and not a regular Scientific Article — Ed.]

Principles of Care :

No matter how trivial a wound of the hand may seem, it is an economic disaster to its owner if it prevents his immediate return to work. The length of time lost from work is almost directly related to the skill and care provided during the primary treatment.

The paramount responsibilities of the physician are to prevent infection of the wound and to provide complete skin cover for the wounded area. Gross infection of a wound may lead to sloughing of important structures and subsequent fibrosis. But it is vital to realize that lesser and even so-called "subclinical" infections can lead to delayed primary healing. This delay in healing will produce fibrous tissue formation and thinkening of the wound scar which may be just as crippling as the aftermath of the more dramatic gross infection.

Classification of Injuries :

Accurate diagnosis of the extent of an injury is an essential preliminary to planning treatment. The vital step in diagnosis is to classify the type of wound. It is said that wounds are of such an infinite variety that to attempt to classify them is to attempt the impossible. This dictum is probably true if every feature of the wound has to be considered. However, certain major features are sufficiently constant to allow generalisations concerning diagnosis and treatment to be made safely. The classification of wounds of the hand used here is quite arbitrary and certainly is not complete. However, it is of practical value in treatment.

Tidy wounds	Nail Bed injuries
Untidy wounds	Foreign bodies
Crush injuries	Fractures
Pulp loss	Degloving injuries
Amputations	The thumb

Classification :

Tidy wounds :

Tidy wounds have clean and well-defined edges and are usually made by a sharp instrument. They are of two major types

1. Tidy incised wounds.
   Tidy incised wounds are linear and may or may not be straight.

2. Tidy sliced wounds
   Tidy sliced wounds cover an appreciable area. The slice of skin which has been raised may or may not be attached by a basal pedicle.

In both tidy incised and tidy sliced wounds the essential feature is that the wound is produced by a sharp edge with minimum death of nearby cells. These wounds can be expected to heal primarily and to leave a minimum of scarring.

Untidy wounds : Untidy wounds are produced in many ways, but they are frequently inflicted by tools with serrated edges. They have uneven edges with many small flaps which may have a very poor blood supply. Some of these flaps can be expected to die during the first week after injury.

Crush injuries : Crush injuries are diagnosed from the history of how they were sustained, and their full extent does not become defined until several days after the injury. They are injuries with depth, and the edema that results from the penetration of the force into the depth of the tissues may lead to thrombosis and massive death of tissue.

Pulp loss : In this injury there is loss of skin and pulp from the palmar side of the terminal phalanx, but the rigid supporting structures, such as the nail and bony phalanx, are intact. This injury must be considered quite different from a partial amputation because the nail and terminal phalanx are intact.

Amputation :

1. Partial amputation :

   A wound which appears to sever a finger will, on many occasions, be found to have spared a bridge of skin containing one of the neurovascular bundles. If careful inspection of the distal portion of the finger reveals satisfactory bleeding, then the amputation is partial, and evey attempt must be made to save the finger tip.

2. Complete amputation :

   An amputation is complete when the distal portion of the organ is severed from all blood and nerve connections with its proximal portions. It does not have to be completely disconnected. There may be a small skin bridge connecting the two, but, if this does not contain a neurovascular bundle, the wound must be considered a complete amputation.

Nail bed injuries : A distinction must be made between nail bed and nail root injuries. In the latter group the actual area from which the new nail grows is wounded. Inevitably, after a wound to this area there is death of nail-forming cells, and at best the ultimate result must be a deformed and irregular nail.

In nail bed injuries there is a slicing injury of the dorsum of the tip of a finger so that a portion of the nail, its underlying bed, and the distal part of the finger tip are lost.

Foreign bodies : Diagnosis of an injury caused by a foreign body is not difficult, it will depend upon the history given by the patient, an inspection of the wound and usually an X-ray film.

Fractures : Many fractures can be suspected on clinical examination and they are self-evident if they are compound. It is essential to take x-ray pictures in two planes so that an accurate diagnosis of the extent of injury can be made.

Degloving injuries : The term degloving injuries includes all wounds in which there is major loss of skin of the hand by a peeling-back process, such as that used in removing a glove. Frequently the skin is still attached to the part. The majority of these lesions are too extensive to be graded "minor", and the patient should be admitted in a hospital for definitive treatment. However, outpatient care is suitable when only a single finger has been degloved. Almost invariably this injury is produced when a ring worn on the finger is caught on some projection; for instance, when a person jumps down off a truck.

Thumb injuries : Because of its overwhelming importance, the thumb is entitled to a separate category. It can, of course, suffer any form of injury to which the rest of the hand is subject.

Important considerations in treatment planning :

Even after a wound has been placed in a category in the classification, certain questions must be answered before an intelligent plan of treatment can be outlined. If a standard group of questions such as the following is applied to all patients, there is little risk of important features being missed.

Seven Essential questions :

(1) What is the patient's occupation ?
(2) What is the cut/crush ratio ?
(3) Is the wound tidy or untidy ?
(4) Is there any skin loss ?
(5) Is the neurovascular bundle injured ?
(6) Are the tendons injured ?
(7) Are the bone and joints involved ?

The Patient's Occupation : It is of paramount importance to establish at the outset the relationship of the wound to the patient's occupation No matter under what circumstances the wound occured, it is important to find out exact details of what the occupation involves in order to be able to give a reasonable prognosis of future work ability. If the wound has been sustained at work, a history should be taken concerning any previous similar accidents to help establish whether or not the victim is accident prone.

The cut/crush ratio : Cutting injuries cause a minimum death of tissues and only the cells immediately adjacent to the wound will die. Crush injuries are injuries in depth, will produce massive edema, and may lead to massive death of tissue.

The butcher's knife that slips and the carpenter's misguided hammer produce injuries of opposite extremes, but most injuries are a combination of cutting and crushing. Depending upon the proportion of each, the treatment and prognosis will be varied.

Tidy or Untidy : The edges of a tidy wound are clean and well defined, since they are generally made by sharp instruments drawn across the area. These wounds will heal rapidly if the edges of the incision are trimmed to a 90 degree angle. Untidy wounds always heal badly in comparison with tidy wounds. This poor healing is a result of the general disturbance of tissue over a much larger area and the death of several of the small flaps, leaving areas of skin loss which may need secondary treatment.

Skin Loss : Skin loss is usually self-evident on inspection of the wound. In an untidy wound there is frequently loss of skin in the width of the wound, but, unless it is specifically looked for, this loss may not be apparent until closure is attempted.

Particular attention must be given to the viability of any skin flaps that have been raised by trauma. In many instances, these flaps of skin, when replaced, will be based distally and very often their pedicles are narrow in proportion to their length and width. The circulation in a distal-based flap is frequently in jeopardy because the venous drainage in the hand is poor and the flap becomes congested with venous blood. This complication is particularly common in degloving injuries and crush injuries in which there has been avulsion of the skin. In both instances there is a very poor chance that the skin will survive if it is simply replaced and sutured in position.

The Neurovascular Bundle : Spurting arteries are obvious, but nerve damage has to be tested for carefully. It must be remembered that there is an intimate association between the nerves and vessels in the fingers, if one is divided, the other is almost certain to have been damaged. The digital nerves lie very close to the sides of the flexor tendon sheaths, and if there has been a wound sufficiently severe to cut the flexor tendons, a special point must be made of testing the digital nerve supply in that finger.

Tendons : There is no excuse for failing to diagnose tendon injuries, but they will be missed unless a methodical plan of testing each tendon in each finger is always carried out.

Bones and Joints : Injuries involving the bones and joints are usually easily diagnosed, but the extent of the damage cannot be assessed without x-ray examination.

The Skin of the Hand :

At the completion of primary care of a wounded hand there must be complete epithelial cover for the whole hand. Replacement of lost skin takes absolute priority over all other treatment. No matter how trivial a wound may appear, if there has been loss of skin it must be replaced. If the area is left to heal by granulation tissue scarring will inevitably result, and the function of the hand will be impaired.

Skin loss can be replaced by four types of treatment. (1) free skin grafts, (2) local skin flaps. (3) skin flaps from within the hand, and (4) skin flaps from a distance.

Free Skin Grafts : In emergency surgery of the hand, free skin grafts are frequently used. This type of graft is the most easily applied method of skin replacement and

does not require great experience in its use. Free skin grafts are classified as full-thickness grafts, split-skin grafts, and pinch grafts.

Full Thickness Grafts : Full-thickness grafts are cut to include all of the dermis beneath the epithelium. The technical difficulties in applying these grafts make them quite unsuitable for routine use in acute traumatic wounds.

Split-Skin Grafts : Split-skin grafts are cut through the dermis at varying levels. In general they are used either as thick or thin grafts. The average thickness of the skin is ·05 inch. The thick grafts are out at about a ·03 inch level, whereas the thin grafts are between ·015 and ·02 inch in thickness.

The rate of successful take of skin grafts depends very largely upon the state of their recipient beds, but it is also influenced by the thickness of the graft. Thin grafts are vascularized more readily and will often survive in areas where a thicker graft would fail. Despite the high rate of success of thin grafts, they tend to scar down in the later stages of healing because the support of the dermis is missing. Because of this risk of contracture, thick split-skin grafts should be used for most defects, and the thin grafts should be reserved for use on areas of doubtful viability.

Finch Grafts : Finch grafts are small circular areas of skin loss. They are obtained by slicing off a piece of skin which has been tented up by a needle point. The graft is thin at its edge and at least full thickness at its centre. These grafts cannot be used to cover large skin defects because of their irregular thickness and because the donor site is covered by permanent circular scars.

Local Skin Flaps : In general there is so little spare skin in the hand that there can only be very limited use of local skin flaps. The two types of flaps that are generally used to treat small losses of skin of the hand are the rotation flap and the transposition flap Both of these flaps can be used to replace small generally, triangular, defects of skin.

The Rotation Flap : The rotation flap is used on the Dorsum of the hand, since some elasticity of the skin is needed to allow the rotation. When the flap is correctly planned, the defect created by the rotation can be closed primarily, and there is no need for a secondary grafting of the surgically created defect.

The Transposition Flap : The transposition flap is more commonly used on the palmar skin, which is totally inelastic. The principle of its use is to close the primary defect by transposing a flap into the area of skin loss An equivalent area of skin loss is produced at the site from which the flap was raised. The secondary defect must be covered with a split-skin graft. The transposition flap is used in areas where vital structures have been exposed and is designed so that the secondary defect appears in an area of less importance.

Skin Flaps from within the hand : Despite the fact that there is virtually no spare skin in the hand, it is sometimes good policy deliberately to raise a flap and to graft the donor site. The skin flap which has been raised can then be used to cover an area which is

unsuitable for splitskin grafting with full thickness skin and subcutaneous tissues. The flexor aspect of fingers is the site where these flaps are most commonly used.

The Thenar Flap : The thenar flap is used to provide thick skin and subcutaneous tissues for the pulp of the distal phalanx.

The Cross Finger Flap : The cross finger flap is used to cover exposed tendons and bone on the proximal and middle phalanges. The skin from one finger is crossed over to cover the defect on the adjacent finger. Although the skin is relatively thin, since it comes from the dorsum of a finger, it provides much better protection than a split-skin graft.

Skin Flaps from a Distance : There is little indication for the use of skin from a distance in the emergency treatment of hand injuries. Many sites are available, but none is really suitable.

Flaps from the opposite arm can provide acceptable skin, but their use completely cripples the patient, since, with both limps immobilized, he cannot even attend to his own toilet requirements. Chest flaps also provide acceptable skin, but the donor site is so obvious that the scarring is unacceptable to women and to a surprisingly high proportion of men. Abdominal skin is a poor substitute and should not be used. The flaps are bulky, and the fat always remains metabolic storage fat. Whenever the patient's abdomen gets fatter, so will the flap.

General principles of Treatment :

First Aid : In most lay minds, first aid is synonymous with haemorrhage and " pressure points ". The obvious dangers of the use of tourniquets should be borne in mind. The emphasis should be more on prevention of contamination of the wound than on arresting the haemorrhage. There is no haemorrhage from an injured hand which cannot be stopped by the application of direct pressure over the wound with a sterile dressing.

The Time Factor : Six hours was formerly considered the longest time after wounding in which it was safe to close wounds primarily. Experience shows that this arbitrary time limit can be safely exceeded in many cases.

Certain wounds are NEVER treated by primary closure, even when seen within a few hours of wounding. Among these wounds are animal or human bites and wounds contaminated by animal or human excreta. Wounds which have been open for 24 hours or more are almost inevitably infected and should not be closed primarily.

Injuries of the hand cannot be treated in a hurry. Their care demands that sufficient time be allowed for meticulous surgery to be carried out.

Sterile Precautions : The inspection and treatment of a wound must not be undertaken unless the physician is wearing a mask.

The operation repair of hand Injuries must be undertaken in the proper surrounding. Hand wounds demand and deserve the best possible care. This care implies that adequate space is available in which the physician can operate under sterile conditions.

Anaesthesia : Local Anaesthesia is produced by injecting Procaine Hcl. or Xylocaine into tissues around the site of the injury. 1% or 2% Solution is used with 25 or 28 gauge needle to raise a wheal and a needle of adequate length with 20 or 22 gauge is used to introduce through this wheal.

To aneasthesia digit, a ring of anesthesia is injected proximal to the point of injury.

Regional Anaesthesia : This consists of blocking of the regional nerves. The usual locations are as follows.

1. Digital block.
2. Nerve Block in palm.
3. Nerve Block in wrist.
4. Nerve Block in wrist and elbow.
6. Brachial plexus block.

General Anaesthesia : Pentothal induction, rebreathing with a gas mask and curare for muscle relaxation can be used to carry through a long period of anaësthesia.

Anaesthesia in children : The child with an empty stomach is virtually non existent, and the parent's knowledge of their child's intake is frequently grossly inaccurate. It is far better to operate under local anaesthesia than to give a general anaesthetic and run the risk that the child might inhale his vomit.

Children tolerate the use of local anaesthesia well, particularly if they have been well premedicated. The procedure for blocking the nerves are identical with those of used in adults, but allowance must be made for the smaller size of the tissues.

Dressings and splints : Whatever dressing is applied directly to the wound it must be readily removeable and must not stick to the blood oozing from the wound edges.

Whether a small or large amount of dressing is used, there is only one acceptable position in which to bandage the hand —— THE FUNCTIONAL POSITION.

Physiotherapy : is of great importance in the post operative programme of major reconstructive surgery of the hand. For the minor injuries it is of very definite, though limited, value in the after treatment.

Hand, Brain and Mind : It is a truism that the efficiency of the hand depends not only on its structure but also on the brain and the mind that control it; consequently the outcome of an injury depends upon the extent to which the hand-brain-mind unit is disorganised.

Abnormal Uterine Bleeding

Dr. (Mrs.) P. Kunders
Christian Medical College, Vellore.

This is a lecture notes used during the Refresher Course in C. M. C. Hospital and not a regular scientific Article—Ed.

Abnormal uterine bleeding is a common symptom during the mature years of a woman's life.

During adolesence this symptom is seldom associated with tumours or pelvic pain. But with advancing years, pathologic lesions play a more prominent role in the production of the bleeding.

Abnormal uterine bleeding may occur as:

(a) Haemorrhage before puberty.

(b) The excessive bleeding of puberty.

(c) Excessive or irregular haemorrhage during reproductive life.

(d) Postmenopausal haemorrhage.

Bleeding which occurs one or more years after the last menstruation of the climateric is considered to be post-menopausal bleeding.

I will start with the post-menopausal bleeding because of its important clinical significance. Post-menopausal bleeding is indicative of malignancy until it is definitely proved otherwise.

A summary of the reports in the literature of 4,181 patients revealed that 56–8% had malignancy i. e. more than half the number with postmenopausal bleeding are due to malignancy. This figure should make all of us alert and make us do a complete and thorough examination of all such patients, The malignancies that most commonly cause this symptoms are carcinoma of the cervix and endometrium. Granulosa and theca cell tumours of the ovary, sarcoma and mixed tumours of the uterus, epithelial new growths of the vagina, fallopian tubes and vulva are more rare.

The benign lesions that produce this type of bleeding are numerous. One should not forget oestrogen therapy after menopause as

one of the causes of postmenopausal bleeding. One should find out from the patient whether she has been taking oestrogens for menopausal symptoms or for some other reason. One should not use at this period continuously for two reasons, one is withdrawal bleeding which may be alarming and secondly because of its predisposition to cause endometrial cancer.

The benign lesions that cause bleeding are:

1. Vaginal and cervical or uterine polypi. Innocent tumours such as fibroid uterus.

2. Infections of the vagina:

   (a) Trichomonas, monilial or senile vaginitis

   (b) Cervical erosions

   (c) Endometritis, specially tubercular or senile endometritis

   (d) Pyometra and haematometra

3 Dysfunctional uterine haemorrhages:

4. Injuries: Direct trauma
   Decubital ulceration
   Foreign bodies such as pessaries
   Post-radiation ulceration

But one or more of the above benign causes should not be held accountable until cancer has been excluded by a complete and thorough examination and investigations.

Management of a patient who comes with post-menopausal bleeding:

When first seen in the outpatient Department, a good history and a complete physical examination is important. Blood and urine examinations should be done. If the patient is obese — a fasting blood sugar should be done, for, diabetes in women in the sixth decade of life seems to be associated with prolongation of the bleeding activity. After palpation of the breast and abdomen, inspection and examination of the external genitalia, and the urethra is important for quite often the bleeding may be from a urethral caruncle.

The next step is to insert a speculum without using any lubricant or antiseptic lotion the vagina and cervix are exposed. A vaginal smear for cancer is made. Smears taken from the cervical canal, cervical os and vaginal pool and any suspicious lesion should be biopsied.

A proper vaginal examination is made to see if there is any obvious abnormality in the uterus or pelvis. A rectal examination is very important, for quite often the findings you have missed by your vaginal examination is easily recognized by a rectal examination specially the state of the parametrium in malignant lesions.

Once the patient is admitted a proper examination under anaes thesia and a complete curettage of the uterine cavity should be done and all the curettings sent for histopathological examination to exclude any malignancy. While doing a vaginal examination even though some possible explanation may have been found, like polypus, vaginitis etc, no benign lesion should be accepted as the cause of bleeding until cancer is definitely excluded.

Treatment: For non-malignant condition of the endometrium a curettage and removal of any lesion may suffice as therapy, since experience has shown that bleeding in some cases does not recur subsequently.

But if bleeding recurs after curettage then another proper examination and adequate treatment is necessary — and hysterectomy is the line of treatment.

In the absence of malignancy hysterectomy is indicated in cases :

1. If there are other pelvic lesions that need surgery such as ovarian tumours cystocele, uterine prolapse etc.

2. If bleeding recurs after one curettage even in the absence of any pelvic lesion.

3. If there are uterine tumours present, eventhough they might not in themselves indicate operation, such as small myomas.

4. If previous irradiation has been given and bleeding appears again.

Here I want to stress the point that there is no indication for Radium treatment for non-malignant conditions of the uterus except when there is a definite and absolute contraindication for surgery.

II. **Excessive or irregular haemorrhage during reproductive life:**

1. Causes may : (a) Extra pelvic disease
   (b) Pelvic conditions.

Extrapelvic disease: Debilitating diseases tend to suppress menstruation rather than to increase menstruation.

1. **Disease of the cardiovascular system:** Any blood disorder characterised by coagulation defects or by excessive capility can cause endometrial haemorrahge. In Thrombocytopenic purpura for example, uterine bleeding may be one of the first manifestations and can be so severe as to threaten life.

Severe anaemia of any kind favours menorrhagia but often it is difficult to say which is the cause and which the effect.

Heart disease does not affect menstruation unless congestive failure is present. Hypertension again does not cause excessive bleeding unless it is associated with arteriosclerosis in the vessels of the uterus which is quite exceptional. Cirrhosis of the liver, and any disease which disturbs the normal metabolism and inactivation of oestrogen by the liver, can lead to menorrhagia.

Thyroid dysfunction: Hypothyroidism usually causes menorrhagia where as hyperthyroidism rarely causes menorrhagia.

Psychological upsets: Emotional and nervous disorders are an important cause of irregular bleeding which we are often apt to forget. Nervous tension, anxiety states, unsatisfied sex urge, marital upsets and over work are examples (Hypothalmic - pituitary - ovarian chain may be concerned.)

Pelvic conditions: 1. **Pregnancy states:** Irregular and excessive bleeding is common in early pregnancy and may be due to "implantation haemorrhage" or due to abortion, vesicular mole or ectopic gestation.

Errors in uterine development: Menorrhagia is not uncommonly seen in association with uterus didelphys or bicornis

Local injury – foreign bodies

Displacements: Abnormal uterine haemorrhage is common in cases of fixed retroversion, here the cause may be pelvic infection or endometriosis which is the cause of fixed retroversion.

Infection: All forms of pelvic peritonitis, salpingitis, salpingo-oophoritis and cellulitis tend to cause abnormal uterine haemorrhage. In the acute phase of the inflammation the menstrual upset is sudden, short-lived and usually less severe. In chronic infections epimenorrhagia is common.

Endometriosis: When the ovaries are involved in endometriosis, epimenorrhoea or epimenorrhagia is likely. **Adenomyosis** on the other hand cause menorrhagia.

New growths: Excluding follicular and luteal cysts, which are not new growths, ovarian tumours even though bilateral, unless they are of enormous size, rarely affect menstruation. The exception to this is (1) Functional tumours such as granulosa cell and theca cell tumour, (2) A single episode of bleeding may take place when there is torsion of an ovarian cyst or when there is haemorrhage into the cyst.

Uterus: Myomas and adenomyomas.

Surface growths: Such as malignant states of the tubes, uterus and cervix and vagina as well as innocent polipi in these sites cause irregular prolonged bleeding or intermenstrual bleeding.

Chronic symmetrical enlargement of the uterus: Excessive uterine bleeding is sometimes associated with generalised enlargment, of the uterus, the cause of the generalised myohyperplasia or hypertrophy is not known.

Lastly dysfunctional uterine bleeding:

An Interview

M. B. Gunavan Singh, L. I. M.

Foreigner: Good morning Doctor. I am a foreigner touring round your country and visiting some important places to gather informations. Casually I saw your name-board ending in M. D. (h). It is curious for me to see that small (h) after M. D. I want to know something about that. Hence I stepped in. Hope you would oblige me to answer a few questions.

Doctor : Yes Sir.

Foreigner: Since how long are you practising ?

Doc : Since ten years.

For : In which college did you study ?

Doc : I did not study anywhere.

For : Then how did you become a doctor ?

Doc : By paying Rs. 25/– I got a certificate to practice.

For : What kind of certificate ?

Doc : Certificate of Homeopathy.

For : DOES YOUR GOVT. ISSUE SUCH CETIFICATES ?

Doc : Yes I got it ten years back.

For : Do you practise only Homeopathy ?

Doc : No. I practise only Allopathy.

For : How can you do that ? What knowledge have you in Allopathy ?

Doc : I was working as a wardboy under a doctor for two years. There I picked up some knowledge of Allopathy.

For : DOES YOUR GOVERNMENT ALLOW SUCH KIND OF PRACTICE ?

Doc : Yes.

For : Do you treat all type of cases ?

Doc : Yes I even do surgery.

For : What kind of medicines do you use in your practice ?

Doc : I use only Penicillin, Streptomycin, Achromycin, Chloromycetine, Elkosin, M & B 693, B Complex, Vit-C., Multivitamines etc.

For : How do you get these medicines ?

Doc : I purchase them from the Medical Stores.

For : Do they sell these medicines to you against the Drug Control Act ?

Doc : Why not ? I pay more money than the schedule price and get the medicines.

For : What will you do in complicated cases ?

Doc : I take consultations with the other Allopathic doctors, even at times with the D. M. O. and A. D. M. O.

For : DO THEY COME FORWARD FOR CONSULTATION FOR YOU ?

Doc : Why not if I pay consultation fee for them ?

For : Do you have any other business apart from this practice ?

Doc : Yes. I have a barber-shop, because I am a born barber.

For : O ! BARBER-SHOP !! You are barber cum doctor !!! DOES YOUR GOVERNMENT ALLOW SUCH KIND OF PRACTICE ?

Doc : Yes

For : Are there doctors of your type having double business practice?

Doc : Yes. There are Teacher cum Doctor, Tailor cum Doctor, Compounder cum Doctor, Nurse cum Doctor, Wardboy cum Doctor, Insurance Agent cum Doctor, etc. etc.

For : O !! It is really wonderful. Do you have your Association ?

Doc : Yes.

For : Do you conduct conferences of your association ?

Doc : Yes.

For : What is your important wish for the upliftment of your type of doctors ?

Doc : We wish that the doctors of our category who have put up ten years and more of practice must be included in the category of allopathic doctors.

For : O ! wonderful idea !!

Doc : What is your opinion of the interview with me ?

For : It is really wonderful to hear about your type of doctors prevailing in your country. As such it is my opinion that many more number of doctors of your type can be produced by closing all the medical colleges. Thereby it will be very easy for your Govt. to produce a good number of doctors in a short time and to save a good lot of money and time for the students to come out from the college after toiling hard a long time of six years and then to compete with your type of doctors in their private practice.

Thank you Good bye.

Introduction of Ayurveda

Dr. M. D. Nagarathnam, L. I. M.

Ayurveda is an "Upaveda" of "Atharvaveda" preached by ancient sages like Susrutha, Charaka etc. This system of medicine needs more encouragement by our Government, as it is a perfect system to deal with any kind of ailment. The system of Ayurveda can be as effective as the modern medicine, provided the Ayurvedic physician is perfect in his knowledge of Ayurveda. It clarifies how scientific the system of Ayurveda is. There is a false notion in the minds of people, that Ayurveda can cure only some kinds of chronic ailments. The theory of tridoshas, which is the basis of Ayurveda, and how these three doshas (Vatha, Pitha and Kapha) are responsible for the maintenance of good health, and how these cause diseases when they are vitiated is clearly explained.

रोगस्तु दोष वैषम्यम् । दोषसाम्यमरोगत ॥

The importance of "Dinacharya" and "Ritucharya" in maintaining good health is stressed. The Vaidya has to take into consideration, the state of the doshas, the particular season, and the age of the patient, as well as the prakrithi of the patient (Vataja, Pittaja or Kaphaja) in diagnosing a disease. The fundamental principles of Ayurveda, in Surgery and the treatment of diseases above the neck (E. N. T.) are clearly detailed. Chapters on Panchakarma, Rasayana, Vajikarana are also explained. This book on the science of life is an incentive to all those who are interested in our age old system of medicine.

* * * * *

It took me fifteen years to discover that I had no talent to be a man of the medical profession, but I could not give it up because by that time I was too famous

* * * * *

Good clothes do not necessarily indicate success. This is a useful start, seeing that most people take things at their face value.

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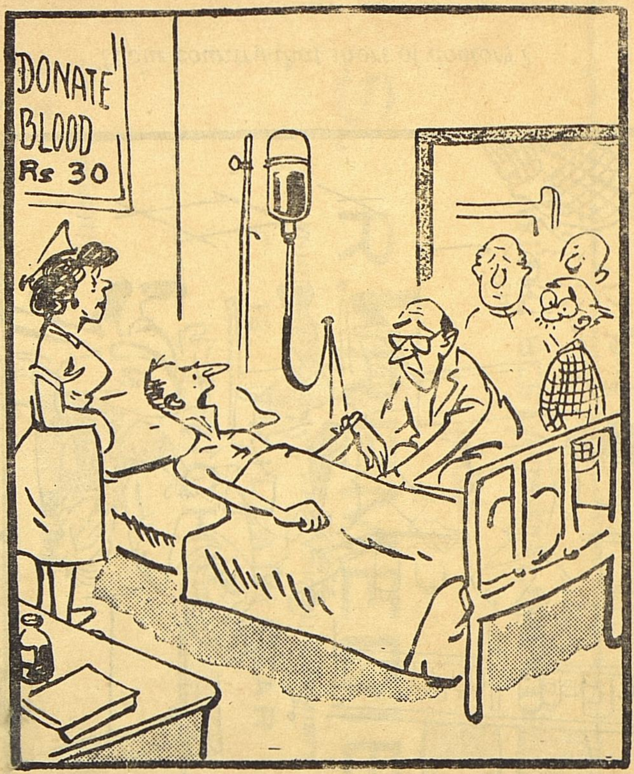

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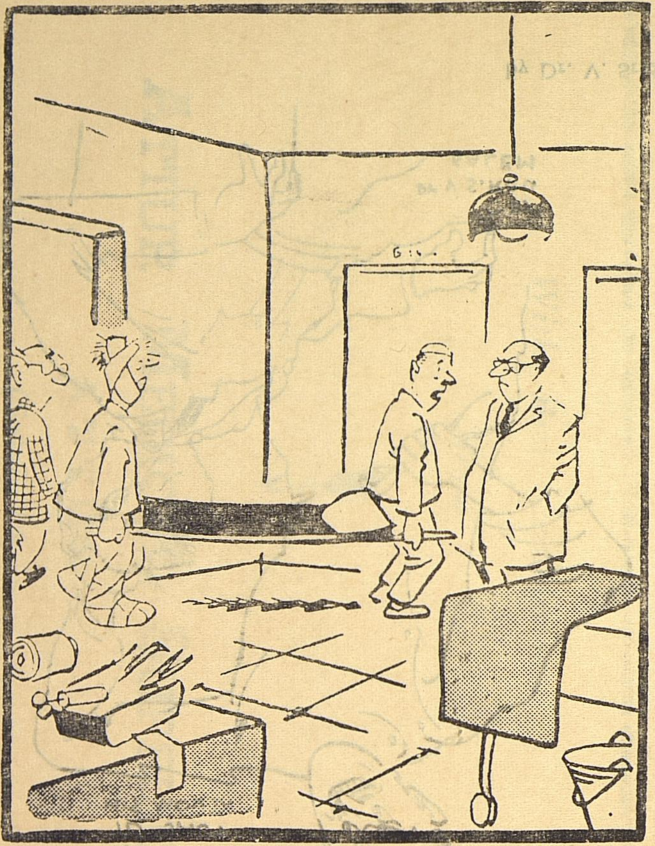
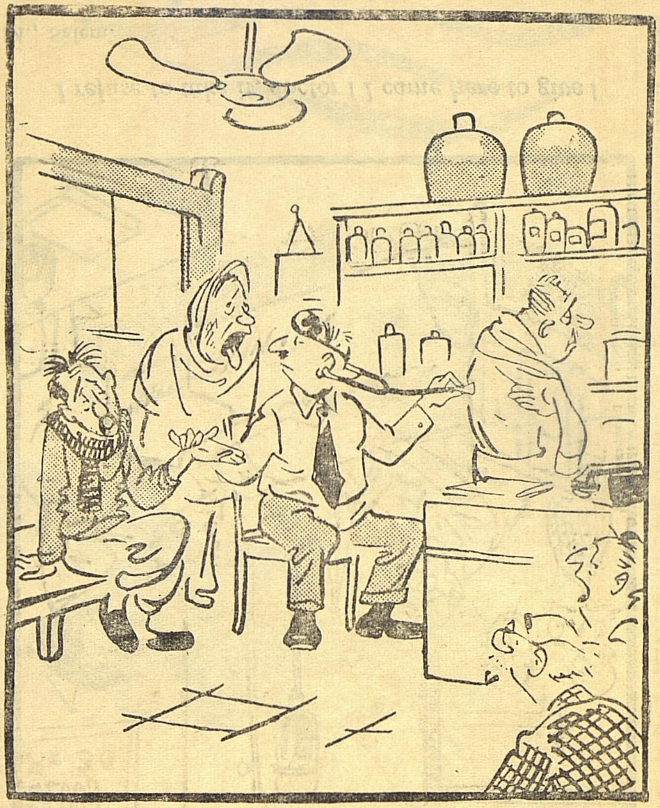
by Dr. V. Sridhar Rao, L. I. M., Salem.



I know, Sir, I should have brought him in the stretcher—but there's such a shortage of hands!



Is our country-that short of doctors?

by Dr. V. Sridhar Rao, L. I. M., Salem.

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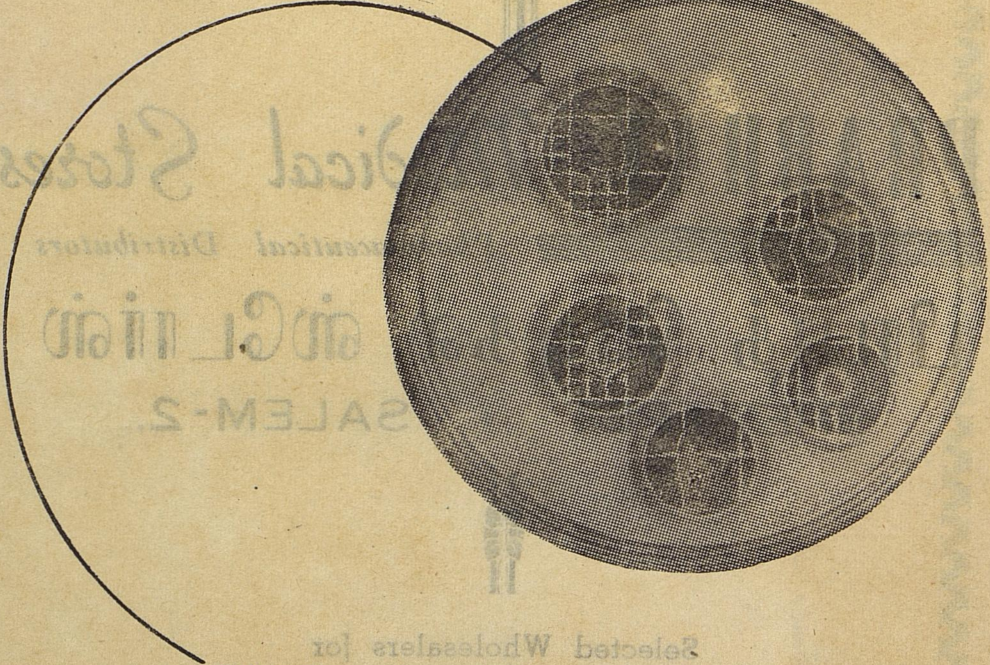

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